```
=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 08:59:37 ON 17 DEC 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
COPYRIGHT (C) 2003 AMERICAN CHEMICAL SOCIETY (ACS)
```



```
FILE COVERS 1907 - 17 Dec 2003  VOL 139 ISS 25
FILE LAST UPDATED: 16 Dec 2003  (20031216/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.


=> d l155 all hitstr tot

L155 ANSWER 1 OF 26  HCAPLUS  COPYRIGHT 2003 ACS on STN
AN   2003:610222  HCAPLUS
DN   139:169003
ED   Entered STN:  08 Aug 2003
TI   Cosmetic patch comprising a pressure sensitive adhesive and a polymer
IN   Rolf, David; Buseman, Teri; Cooke, Dede
PA   Lectec Corporation, USA
SO   PCT Int. Appl., 76 pp.
     CODEN: PIXXD2
DT   Patent
LA   English
IC   ICM  A61K007-48
CC   62-4 (Essential Oils and Cosmetics)
     Section cross-reference(s): 63
FAN.CNT 1
     PATENT NO.        KIND  DATE           APPLICATION NO.   DATE
     ----------------  ----  --------       ----------------  --------
PI   WO 2003063817     A1    20030807       WO 2003-US2425    20030128
         W:  AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH,
             GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,
             LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
             PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, TJ, TM, TN, TR, TT, TZ,
             UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD,
             RU, TJ, TM
         RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG,
             CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC,
             NL, PT, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW,
             ML, MR, NE, SN, TD, TG
     US 2003152610     A1    20030814       US 2002-60060     20020128
PRAI US 2002-60060     A     20020128
AB   An adhesive patch including a flexible backing having a front side and a
     back side and a cosmetic formulation positioned on and/or in at least a
     portion of the front side of the backing is provided.  The cosmetic
     formulation includes a cosmetic agent, a solvent, a skin absorption
     enhancer, and at least one of a pressure sensitive adhesive and a polymer.
     For example, an adhesive patch contained polyacrylamide 13.0%, glycerin
```

53.5%, water 19.0%, vitamin A palmitate 0.25%, grape seed oil 0.5%, fragrance 0.25%, ammonium lactate 1.0%, propylene glycol 4.0%, diethylene glycol Et ether 5.0%, emulsion adhesive 3.0%, and preservative 0.5%.

ST pressure sensitive adhesive polymer cosmetic patch

IT Glycerides, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(C8-10, ethoxylated; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Glycerides, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(C8-10; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fruit
(acids; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(acrylates; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Natural products, pharmaceutical
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(aloe; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Skin preparations (pharmaceutical)
(astringents; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Cotton fibers
(backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polyamide fibers, biological studies
Polyester fibers, biological studies
Polyolefin fibers
Polyurethane fibers
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fibers
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(cellulosic, backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Peptides, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(**copper**-containing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Adhesives
Antioxidants
Cosmetics
Emulsifying agents
Nonwoven fabrics
Odor and Odorous substances
Perfumes
Permeation enhancers
Preservatives
Radical scavengers
(cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Alums

Biopolymers
Cocoa butter
Cod liver oil
Cytokines
Gelatins, biological studies
Glycosaminoglycans, biological studies
Hydrocarbon oils
Kaolin, biological studies
Lanolin
Lecithins
Petrolatum
Quaternary ammonium compounds, biological studies
Tannins
Tourmaline-group minerals
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polymers, biological studies
Polyoxyalkylenes, biological studies
Polyureas
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fats and Glyceridic oils, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(cranberry seed; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Gelatins, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(crosslinked; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Collagens, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(crosslinking inhibitor and stimulator; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(di-Me vinyl; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(di-Me, acrylate-; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(di-Me, vinyl-terminated; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(di-Me; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(dialkyl, vinyl-terminated; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies

RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(dialkyl; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Curcuma longa
Sugarcane
Tea products
(exts.; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Cosmetics
(face packs, adhesive; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polyurethanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(foam, backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fats and Glyceridic oils, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(grape seed; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Tea products
(green, exts.; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fibroblast
(growth stimulator; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fats and Glyceridic oils, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(hard fat; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Carboxylic acids, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(hydroxy; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Surfactants
(ionic; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Natural products, pharmaceutical
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(licorice; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Cosmetics
(moisturizers; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Surfactants
(nonionic; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Foams
(open cell, backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Alcohols, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(polyhydric; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Fats and Glyceridic oils, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)

(**shark**-liver oil; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Polysiloxanes, biological studies
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(vinyl group-containing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT Natural products, pharmaceutical
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(witch hazel; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT 50-21-5, Lactic acid, biological studies 50-81-7, Vitamin C, biological studies 56-81-5, Glycerin, biological studies 57-55-6, Propylene glycol, biological studies 57-55-6D, 1,2-Propanediol, ethers with β-cyclodextrin 57-88-5, Cholesterol, biological studies 58-08-2, Caffeine, biological studies 58-55-9, Theophylline, biological studies 58-95-7, Vitamin E acetate 67-68-5, DMSO, biological studies 69-72-7, Salicylic acid, biological studies 69-89-6, Xanthine 75-84-3, Neopentyl alcohol 77-92-9, Citric acid, biological studies 79-10-7D, Acrylic acid, esters, polymers 79-14-1, Glycolic acid, biological studies 79-17-4, Aminoguanidine 79-81-2, Vitamin A palmitate 79-83-4, Vitamin B3 81-25-4, Cholic acid 83-44-3, Deoxycholic acid 87-69-4, Tartaric acid, biological studies 94-13-3, Propylparaben 98-92-0, Nicotinamide 99-76-3, Methylparaben 102-71-6, Triethanol amine, biological studies 102-76-1, Triacetin 107-21-1, Ethylene glycol, biological studies 108-32-7, Propylene carbonate 108-46-3, Resorcinol, biological studies 110-27-0, Isopropyl myristate 111-77-3, Diethylene glycol monomethyl ether 111-90-0, Diethylene glycol ethyl ether 112-15-2, Diethylene glycol ethyl ether acetate 112-27-6, Triethylene glycol 300-85-6, β-Hydroxybutanoic acid 302-79-4, Retin A **305-84-0, Carnosine** 471-53-4, Glycyrrhetinic acid 502-65-8, Lycopene 504-63-2, 1,3-Propane diol 515-98-0, Ammonium lactate 516-50-7, Taurodeoxycholic acid 552-63-6, Tropic acid 617-73-2, α-Hydroxyoctanoic acid 1314-13-2, Zinc oxide, biological studies 1317-25-5, Alcloxa 1323-38-2, Glyceryl ricinoleate 1398-61-4, Chitin 1406-18-4, Vitamin E 2163-42-0, 2-Methyl-1,3-propanediol 4602-84-0, Farnesol 6915-15-7, Malic acid 7007-81-0, Trethocanic acid 7384-98-7, Propylene glycol dicaprylate **7440-50-8D, Copper**, peptides 7585-39-9D, β-Cyclodextrin, ethers with propanediol 8011-96-9, Calamine 9000-01-5, Gum acacia 9000-07-1, Carrageenan 9000-28-6, Gum Ghatti 9000-30-0, Guar gum 9000-36-6, Karaya gum 9000-40-2, Locust bean gum 9000-65-1, Gum tragacanth 9000-69-5, Pectin 9002-18-0, Agar 9003-01-4, Poly(acrylic acid) 9003-05-8, Polyacrylamide 9004-32-4, Sodium carboxymethyl cellulose 9005-25-8, Starch, biological studies 9005-35-0, Calcium alginate 9005-38-3, Algin 9050-36-6, Maltodextrin 9086-70-8, Starch-acrylic acid graft copolymer 11103-57-4, Vitamin A 11138-66-2, Xanthan gum 26402-26-6, Glycerol monocaprylate 27215-38-9, Glycerol monolaurate 31566-31-1, Glycerol monostearate 36653-82-4, 1-Hexadecanol 53824-77-4, Propylene glycol dicaprate 62031-54-3, Fibroblast growth factor 66676-63-9, Carboxypropyl cellulose 75621-03-3, 3-[(3-Cholamidopropyl)dimethylammonio]-1-propane-sulfonate 86303-22-2, BigCHAP 128808-26-4
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(cosmetic patch comprising pressure sensitive adhesive and polymer)

IT 108-05-4D, Vinyl acetate, copolymers 9002-89-5, Polyvinyl alcohol 9003-04-7, Sodium polyacrylate 9003-39-8, Polyvinylpyrrolidone 25322-68-3, Polyethylene oxide 26099-09-2, Poly(maleic acid) 27119-07-9 478842-46-5, Vilmed M 1585W/HY 478842-60-3, Vilmed M 1585H/HY 478842-72-7, Vilmed M 1586W/HY 478842-90-9, Vilmed M 1586H/HY 478843-06-0, Vilmed M 1570 478843-37-7, Vilmed M 1573F 478843-61-7,

Vilmed M 1573FH 478843-81-1, Vilmed M 1577F 478843-92-4, Vilmed M 1578F 478844-03-0, Vilmed M 1578FH
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(cosmetic patch comprising pressure sensitive adhesive and polymer)

IT 9004-34-6, Cellulose, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(fibers, backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT 9002-86-2, Polyvinyl chloride 9002-88-4, Polyethylene
RL: COS (Cosmetic use); DEV (Device component use); POF (Polymer in formulation); BIOL (Biological study); USES (Uses)
(foam, backing; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT 21645-51-2, Aluminum hydroxide, biological studies
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(gel; cosmetic patch comprising pressure sensitive adhesive and polymer)

IT 525-79-1, Kinetin
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(plant exts. containing; cosmetic patch comprising pressure sensitive adhesive and polymer)

RE.CNT 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD

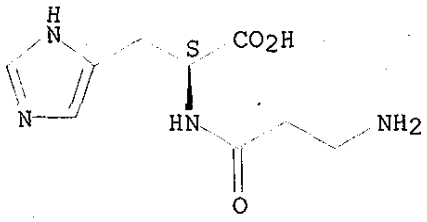
RE

(1) Buseman, T; WO 0141745 A 2001 HCAPLUS
(2) Buseman, T; US 6495158 B1 2002 HCAPLUS
(3) Hymes, A; WO 0069405 A 2000 HCAPLUS
(4) Lectec Corp; WO 0178691 A 2001 HCAPLUS
(5) Porter, F; US 5968533 A 1999 HCAPLUS
(6) Roreger, M; WO 0054744 A 2000 HCAPLUS

IT **305-84-0, Carnosine 7440-50-8D, Copper**
, peptides
RL: COS (Cosmetic use); DEV (Device component use); BIOL (Biological study); USES (Uses)
(cosmetic patch comprising pressure sensitive adhesive and polymer)

RN 305-84-0 HCAPLUS
CN L-Histidine, β-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

L155 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **2003:133121** HCAPLUS

DN 138:183234
ED Entered STN: 21 Feb 2003
TI **Conjugates** of macrocyclic metal **complexes** with biomolecules, and the use thereof for producing agents for use in NMR diagnosis, radiodiagnosis and radiotherapy
IN Platzek, Johannes; Schmitt-Willich, Heribert; Michl, Guenther; Frenzel, Thomas; Suelzle, Detlev; Bauer, Hans; Raduechel, Bernd; Weinmann, Hanns-Joachim; Schirmer, Heiko
PA Schering AG, Germany
SO PCT Int. Appl., 93 pp.
CODEN: PIXXD2
DT Patent
LA German
IC ICM A61K049-08
ICS A61K049-00
CC 8-9 (Radiation Biochemistry)
Section cross-reference(s): 28, **63**, 78
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2003013617	A2	20030220	WO 2002-EP8000	20020718
W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM				
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
DE 10135355	C1	20030417	DE 2001-10135355	20010720
US 2003206865	A1	20031106	US 2002-198048	20020719
PRAI DE 2001-10135355	A	20010720		

OS MARPAT 138:183234
AB The invention discloses **conjugates** of macrocyclic metal **complexes** with biomols., as well as the production thereof. The **conjugates** are suited for use as contrast agents in NMR diagnosis and radiodiagnosis and as agents for radiotherapy. A high relaxivity is achieved and a fine tuning of the relaxivity is made possible by a special liganding of the macrocycles.
ST macrocycle metal **complex** biomol **conjugate** prepn NMR diagnosis; radiodiagnosis radiotherapy macrocycle metal **complex** biomol **conjugate** prepn
IT Blood-group substances
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(Lex, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)
IT *Imaging agents*
(NMR contrast; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)
IT Intercalation
(agents, DNA intercalators, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)
IT Vitamins
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(and vitamin analogs, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents

for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Transport proteins
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(anion-transporting, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Hormones, animal, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(antihormones, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Myoglobins
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(apo-, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Amines, biological studies
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(biogenic, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Blood
(blood pool reagents, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Transport proteins
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(cation-transporting, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Paramagnetic materials
(**complexes**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Radionuclides, biological studies
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(**complexes**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Amines, biological studies
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(**conjugates**, vectorial; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Antibiotics
Antitumor agents
Drugs
Immunomodulators
Micelles
(**conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Agglutinins and Lectins
Alkaloids, biological studies
Antibodies
Biopolymers
Cytochromes

DNA
Diglycerides
Fatty acids, biological studies
Glycerides, biological studies
Hormones, animal, biological studies
Lipids, biological studies
Monoglycerides
Myoglobins
Neuropeptides
Nucleosides, biological studies
Nucleotides, biological studies
Peptides, biological studies
Perfluorocarbons
Polyamides, biological studies
Polyesters, biological studies
Polymers, biological studies
Porphyrins
Prostaglandins
Proteins
RNA
Steroids, biological studies
Tumor necrosis factors
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(**conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Fatty acids, biological studies
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(esters, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Inflammation
(inflammatory tissue; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Drug delivery systems
(liposomes, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Biochemical molecules
Drug delivery systems
Human
Magnetic relaxation
Radiotherapy
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT G proteins (guanine nucleotide-binding proteins)
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Coordination compounds
Glycoconjugates
Natural products, pharmaceutical
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Neurotransmitters

RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(peptide, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Polymers, biological studies
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(polyphosphates, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Diagnosis
(radiodiagnostic agents; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Albumins, biological studies
RL: DGN (Diagnostic use); PAC (Pharmacological activity); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(serum; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT Proteins
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(tumor specific, **conjugates**; macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT 9001-34-7, Galactosidase 9025-39-2, Heparinase 9032-89-7, UDP-galactose 4-epimerase 9032-92-2, Glycosidase 9033-07-2, Glycosyltransferase 50812-37-8, Glutathione S transferase 88201-45-0 95567-89-8, Calmodulin kinase 111070-05-4, Fucosidase 125858-89-1, Xylosidase 141907-41-7, Matrix metalloproteinase 366806-33-9, Caseinkinase II
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT 494750-54-8DP, biomol. **conjugates** 494750-56-0DP, biomol. **conjugates** 494750-58-2DP, biomol. **conjugates** 494750-61-7DP, biomol. **conjugates** 494750-63-9DP, biomol. **conjugates** 494750-68-4DP, biomol. **conjugates** 494750-73-1DP, biomol. **conjugates** 494750-75-3DP, biomol. **conjugates** 494750-77-5DP, biomol. **conjugates** 494750-79-7DP, biomol. **conjugates** 494750-81-1DP, biomol. **conjugates** 494750-86-6DP, biomol. **conjugates** 494750-88-8DP, biomol. **conjugates**
RL: DGN (Diagnostic use); PAC (Pharmacological activity); RCT (Reactant); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT 50-07-7DP, Mitomycin C, **conjugates** with gadolinium **complexes** 53-79-2DP, Puromycin, **conjugates** with gadolinium **complexes** 54-62-6DP, **conjugates** with gadolinium **complexes** 57-92-1DP, Streptomycin, **conjugates** with gadolinium **complexes** 69-53-4DP, Ampicillin, **conjugates** with gadolinium **complexes** 85-31-4DP, Thioguanosine, **conjugates** with gadolinium **complexes** 119-04-0DP, Neomycin B, **conjugates** with gadolinium **complexes** 154-42-7DP, **conjugates** with

gadolinium **complexes** 305-84-0DP, L-Carnosine , **conjugates** with gadolinium **complexes** 320-67-2DP, 5-Azacytidine, **conjugates** with gadolinium **complexes** 551-16-6DP, **conjugates** with gadolinium **complexes** 1114-41-6DP, Muramic acid, **conjugates** with gadolinium **complexes** 1400-61-9DP, Nystatin, **conjugates** with gadolinium **complexes** 1695-77-8DP, Spectinomycin, **conjugates** with gadolinium **complexes** 6379-56-2DP, Hygromycin, **conjugates** with gadolinium **complexes** 7266-47-9DP, α1-17-Corticotropin, **conjugates** with gadolinium **complexes** 13204-98-3DP, **conjugates** with gadolinium **complexes** 17136-28-6DP, **conjugates** with gadolinium **complexes** 18710-27-5DP, Homoglutathione, **conjugates** with gadolinium **complexes** 22467-93-2DP, **conjugates** with gadolinium **complexes** 23214-92-8DP, Doxorubicin, **conjugates** with gadolinium **complexes** 31295-41-7DP, 4,5-Diamino-2,6-dimercaptopyrimidine, **conjugates** with gadolinium **complexes** 40454-21-5DP, **conjugates** with gadolinium **complexes** 71494-20-7DP, **conjugates** with gadolinium **complexes** 109292-46-8DP, **conjugates** with gadolinium **complexes** 118850-72-9DP, **conjugates** with gadolinium **complexes** 123562-20-9DP, Endothelin 2 (human), **conjugates** with gadolinium **complexes** 126828-32-8DP, **conjugates** with gadolinium **complexes** 494750-21-9DP, biomol. **conjugates** 494750-22-0DP, biomol. **conjugates** 494750-23-1DP, biomol. **conjugates** 494750-25-3DP, biomol. **conjugates** 494750-26-4DP, biomol. **conjugates** 494750-27-5DP, biomol. **conjugates** 494750-28-6DP, biomol. **conjugates** 494750-29-7DP, biomol. **conjugates** 494750-30-0DP, biomol. **conjugates** 494750-31-1DP, biomol. **conjugates** 494750-32-2DP, biomol. **conjugates** 494750-33-3DP, biomol. **conjugates** 494750-34-4DP, biomol. **conjugates** 494750-35-5DP, biomol. **conjugates** 494750-36-6DP, biomol. **conjugates** 494750-37-7DP, biomol. **conjugates** 494750-38-8DP, biomol. **conjugates** 494750-39-9DP, biomol. **conjugates** 494750-40-2DP, biomol. **conjugates** 494750-41-3DP, biomol. **conjugates** 494750-42-4DP, biomol. **conjugates** 494750-43-5DP, biomol. **conjugates** 494750-44-6DP, biomol. **conjugates** 494750-45-7DP, biomol. **conjugates** 494750-46-8DP, biomol. **conjugates** 494750-47-9DP, biomol. **conjugates** 494750-48-0DP, biomol. **conjugates** 494750-49-1DP, biomol. **conjugates** 494750-52-6DP, **conjugates** with gadolinium **complexes**
RL: DGN (Diagnostic use); PAC (Pharmacological activity); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT 58-85-5D, Biotin, derivs., **conjugates** 59-30-3D, Folic acid, **conjugates** 66-97-7D, Psoralen, **conjugates** 68-19-9D, Vitamin B12, **conjugates** 7429-91-6D, Dysprosium, **complexes** 7439-88-5D, Iridium, **complexes** 7439-89-6D, Iron, **complexes** 7439-92-1D, Lead, **complexes** 7439-94-3D, Lutetium, **complexes** 7439-96-5D, Manganese, **complexes** 7439-98-7D, Molybdenum, **complexes** 7440-00-8D, Neodymium, **complexes** 7440-02-0D, Nickel, **complexes** 7440-05-3D, Palladium, **complexes** 7440-10-0D, Praseodymium, **complexes** 7440-12-2D, Promethium, **complexes** 7440-15-5D, Rhenium, **complexes** 7440-17-7D, Rubidium, **complexes** 7440-18-8D, Ruthenium, **complexes** 7440-19-9D, Samarium, **complexes** 7440-20-2D, Scandium,

complexes 7440-22-4D, Silver, **complexes** 7440-24-6D, Strontium, **complexes** 7440-26-8D, Technetium, **complexes** 7440-27-9D, Terbium, **complexes** 7440-30-4D, Thulium, **complexes** 7440-32-6D, Titanium, **complexes** 7440-45-1D, Cerium, **complexes** 7440-47-3D, Chromium, **complexes** 7440-48-4D, Cobalt, **complexes** **7440-50-8D, Copper, complexes** 7440-52-0D, Erbium, **complexes** 7440-53-1D, Europium, **complexes** 7440-54-2D, Gadolinium, **complexes** 7440-55-3D, Gallium, **complexes** 7440-56-4D, Germanium, **complexes** 7440-60-0D, Holmium, **complexes** 7440-62-2D, Vanadium, **complexes** 7440-64-4D, Ytterbium, **complexes** 7440-65-5D, Yttrium, **complexes** 7440-69-9D, Bismuth, **complexes** 7440-74-6D, Indium, **complexes** 9001-67-6D, Neuraminidase, **conjugates** 33069-62-4D, Taxol, **conjugates** 51110-01-1D, Somatostatin, **conjugates** 52769-51-4D, Endoglycosidase, **conjugates** 69552-46-1D, Carbacyclin, **conjugates** 116243-73-3D, Endothelin, **conjugates** 127464-60-2D, **Vascular** endothelial growth factor, **conjugates** 189752-49-6D, Texaphyrin, **conjugates** 494750-83-3D, biomol. **conjugates** 494750-91-3D, biomol. **conjugates** 497922-13-1D, biomol. **conjugates** 497922-14-2D, biomol. **conjugates**
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

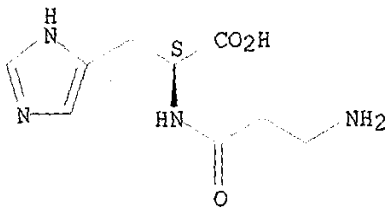
IT 105-36-2 294-90-6, 1,4,7,10-Tetraazacyclododecane 1308-87-8, Dysprosium oxide 1738-76-7, Glycine benzyl ester tosylate 2417-72-3 2969-81-5 6271-23-4 7087-68-5, N-Ethyldiisopropylamine 12064-62-9, Gadolinium oxide 14199-15-6 19008-43-6 32085-73-7 41339-29-1 82820-87-9 125923-10-6 130676-99-2 168966-15-2 208252-91-9 494751-24-5 494751-25-6 494751-26-7 494751-27-8
RL: RCT (Reactant); RACT (Reactant or reagent)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT 172744-88-6P 186095-25-0P 350588-09-9P 350588-10-2P 350588-11-3P
494750-21-9P 494750-22-0P 494750-23-1P 494750-25-3P 494750-26-4P
494750-27-5P 494750-28-6P 494750-29-7P 494750-30-0P 494750-31-1P
494750-32-2P 494750-33-3P 494750-34-4P 494750-35-5P 494750-36-6P
494750-37-7P 494750-38-8P 494750-39-9P 494750-40-2P 494750-41-3P
494750-42-4P 494750-43-5P 494750-44-6P 494750-45-7P 494750-46-8P
494750-47-9P 494750-48-0P 494750-49-1P 494750-53-7P 494750-55-9P
494750-57-1P 494750-59-3P 494750-60-6P 494750-62-8P 494750-64-0P
494750-65-1P 494750-66-2P 494750-67-3P 494750-69-5P 494750-70-8P
494750-71-9P 494750-72-0P 494750-74-2P 494750-76-4P 494750-78-6P
494750-80-0P 494750-82-2P 494750-84-4P 494750-85-5P 494750-87-7P
494750-89-9P 494750-90-2P 494750-92-4P 494750-93-5P 494750-94-6P
494750-95-7P 494750-96-8P 494750-97-9P 494750-98-0P 494750-99-1P
494751-00-7P 494751-01-8P 494751-02-9P 494751-03-0P 494751-04-1P
494751-05-2P 494751-06-3P 494751-07-4P 494751-09-6P 494751-10-9P
494751-11-0P 494751-12-1P 494751-13-2P 494751-14-3P 494751-15-4P
494751-16-5P 494751-17-6P 494751-18-7P 494751-19-8P 494751-20-1P
494751-21-2P 494751-22-3P 494751-23-4P 499203-20-2P 499203-21-3P
499203-22-4P 499203-23-5P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)

IT **305-84-0DP, L-Carnosine, conjugates** with

gadolinium **complexes**
RL: DGN (Diagnostic use); PAC (Pharmacological activity); SPN (Synthetic preparation); **THU (Therapeutic use)**; BIOL (Biological study); PREP (Preparation); USES (Uses)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)
RN 305-84-0 HCAPLUS
CN L-Histidine, β-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT **7440-50-8D, Copper, complexes**
RL: DGN (Diagnostic use); PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(macrocyclic metal **complex**-biomol. **conjugates**, preparation, and use as agents for NMR diagnosis, radiodiagnosis and radiotherapy)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

L155 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **2002:964206** HCAPLUS
DN **138:29156**
ED Entered STN: 20 Dec 2002
TI Low-molecular-weight components of cartilage, **complexes** of **copper** with **amino acids** or **di-peptides**, and processes for preparation and therapeutic uses thereof
IN **Dupont, Eric; Lessard, Denis; Auger, Serge; Dimitriadou, Violetta; Falardeau, Pierre; Poyet, Patrick**
PA **Les Laboratoires Aeterna Inc., Can.**
SO PCT Int. Appl., 61 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K035-32
ICS A61K033-34; A61K031-198; A61K038-05; A61P043-00; A61K033-34; A61K031-198; A61K038-05; A61K033-34
CC 63-6 (**Pharmaceuticals**)
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI WO 2002100421	A1	20021219	WO 2002-CA866	20020611 <--

W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,

LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH,
PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ,
UA, UG, US, UZ, VN, YU, ZA, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU,
TJ, TM
RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW, AT, BE, CH,
CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR,
BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

US 2003087830 A1 20030508 US 2001-879660 20010612 <--
PRAI US 2001-879660 A 20010612 <--

AB Low mol. weight components extracted from **shark** cartilage and **complexes** made of **copper** with **amino acid** or **dipeptide** units or analogs thereof are disclosed. Methods are disclosed for the inhibition of **angiogenesis** (**neovascularization**) in an animal through the administration of these **complexes**, which results in treating **angiogenesis**-dependent diseases.

ST **angiogenesis** inhibitor **copper complex** **peptide** cartilage

IT Drug delivery systems
(carriers; low-mol.-weight components of cartilage and **complexes** of **copper** with **amino acids** or **di-peptides** for inhibiting **angiogenesis**)

IT **Shark**
(cartilage of; low-mol.-weight components of cartilage and **complexes** of **copper** with **amino acids** or **di-peptides** for inhibiting **angiogenesis**)

IT Collagens, biological studies
RL: BSU (Biological study, unclassified); BIOL (Biological study)
(collagenolytics, inhibitors of; low-mol.-weight components of cartilage and **complexes** of **copper** with **amino acids** or **di-peptides** for inhibiting **angiogenesis**)

IT **Amino acids**, biological studies
Dipeptides
RL: PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(**copper complexes**; low-mol.-weight components of cartilage and **complexes** of **copper** with **amino acids** or **di-peptides** for inhibiting **angiogenesis**)

IT Blood vessel
(endothelium, proliferation of; low-mol.-weight components of cartilage and **complexes** of **copper** with **amino acids** or **di-peptides** for inhibiting **angiogenesis**)

IT **Angiogenesis inhibitors**
Anti-inflammatory agents
Antioxidants
Antitumor agents
Cartilage
Cell migration
Cell proliferation
Extraction
Molecular weight distribution
Particle size distribution
(low-mol.-weight components of cartilage and **complexes** of **copper** with **amino acids** or **di-peptides** for inhibiting **angiogenesis**)

IT **56-40-6D**, Glycine, **copper complexes**
56-41-7D, Alanine, **copper complexes**
56-45-1D, Serine, **copper complexes**
56-84-8D, Aspartic acid, **copper complexes**

56-85-9, Glutamine, biological studies **56-86-0D**,
Glutamic acid, **copper complexes 56-87-1D**,
Lysine, **copper complexes** 57-00-1D, Creatine,
copper complexes 61-90-5D, Leucine,
copper complexes 71-00-1D, Histidine,
copper complexes 72-18-4D, Valine,
copper complexes 72-19-5D, Threonine,
copper complexes 73-32-5D, Isoleucine,
copper complexes 74-79-3, Arginine, biological
studies **147-85-3D**, Proline, **copper complexes**
7440-50-8D, **Copper**, **amino acid**
complexes 38101-59-6D, Glutamyl tryptophan,
copper complexes
RL: PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL
(Biological study); USES (Uses)
(low-mol.-weight components of cartilage and **complexes** of
copper with **amino acids** or **di-**
peptides for inhibiting **angiogenesis**)

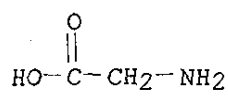
RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD

RE

(1) Arena, G; JOURNAL OF INORGANIC BIOCHEMISTRY 1993, V50(1), P31 HCAPLUS
(2) Blasecki, J; US 5902790 A 1999 HCAPLUS
(3) Castronovo, V; CANCER DRUG DISCOVERY AND DEVELOPMENT SERIES, ANTIANGIOGENIC AGENTS 1999, V3, P175
(4) Dana Farber Cancer Inst Inc; WO 9519769 A 1995 HCAPLUS
(5) Dupont, E; US 5618925 A 1997 HCAPLUS
(6) Patt, L; US 6017888 A 2000 HCAPLUS
(7) Sorenson, J; US 4757059 A 1988 HCAPLUS
(8) Treshchalina, E; DOKLADY BIOCHEMISTRY 1979, V248(1-6), P351

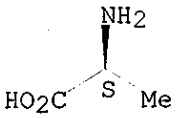
IT **56-40-6D**, Glycine, **copper complexes**
56-41-7D, Alanine, **copper complexes**
56-45-1D, Serine, **copper complexes**
56-84-8D, Aspartic acid, **copper complexes**
56-85-9, Glutamine, biological studies **56-86-0D**,
Glutamic acid, **copper complexes 56-87-1D**,
Lysine, **copper complexes 61-90-5D**, Leucine,
copper complexes 71-00-1D, Histidine,
copper complexes 72-18-4D, Valine,
copper complexes 72-19-5D, Threonine,
copper complexes 73-32-5D, Isoleucine,
copper complexes 74-79-3, Arginine, biological
studies **147-85-3D**, Proline, **copper complexes**
7440-50-8D, **Copper**, **amino acid**
complexes 38101-59-6D, Glutamyl tryptophan,
copper complexes
RL: PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL
(Biological study); USES (Uses)
(low-mol.-weight components of cartilage and **complexes** of
copper with **amino acids** or **di-**
peptides for inhibiting **angiogenesis**)

RN 56-40-6 HCAPLUS
CN Glycine (8CI, 9CI) (CA INDEX NAME)



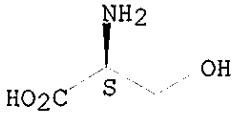
RN 56-41-7 HCAPLUS
CN L-Alanine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



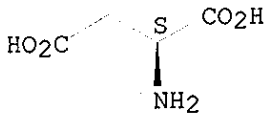
RN 56-45-1 HCAPLUS
CN L-Serine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



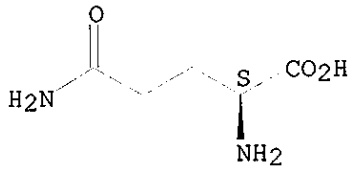
RN 56-84-8 HCAPLUS
CN L-Aspartic acid (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



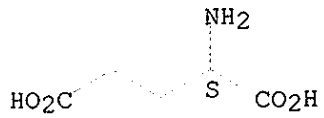
RN 56-85-9 HCAPLUS
CN L-Glutamine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



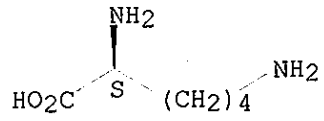
RN 56-86-0 HCAPLUS
CN L-Glutamic acid (9CI) (CA INDEX NAME)

Absolute stereochemistry.



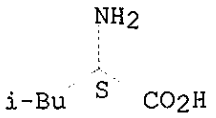
RN 56-87-1 HCAPLUS
CN L-Lysine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



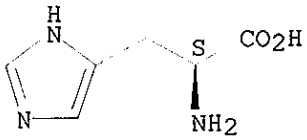
RN 61-90-5 HCAPLUS
CN L-Leucine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



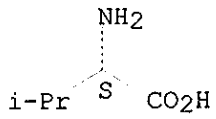
RN 71-00-1 HCAPLUS
CN L-Histidine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).



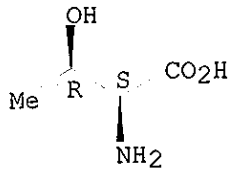
RN 72-18-4 HCAPLUS
CN L-Valine (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (+).



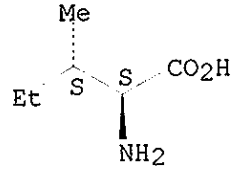
RN 72-19-5 HCAPLUS
CN L-Threonine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



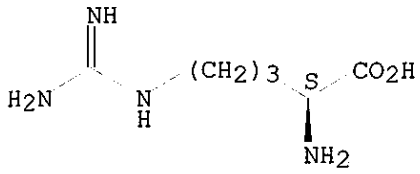
RN 73-32-5 HCAPLUS
CN L-Isoleucine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



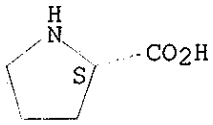
RN 74-79-3 HCAPLUS
CN L-Arginine (9CI) (CA INDEX NAME)

Absolute stereochemistry.



RN 147-85-3 HCAPLUS
CN L-Proline (9CI) (CA INDEX NAME)

Absolute stereochemistry. Rotation (-).

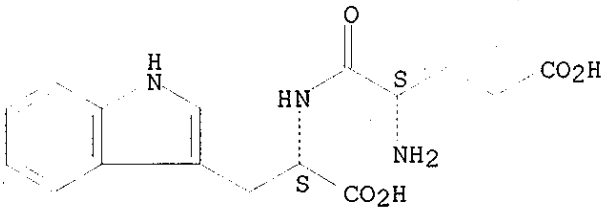


RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

RN 38101-59-6 HCAPLUS
CN L-Tryptophan, L-α-glutamyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L155 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **2002:741481** HCAPLUS
DN **138:330794**
ED Entered STN: 01 Oct 2002
TI Glutamyltryptophan metal **complexes** having immunostimulating properties and method for their obtaining
IN Manorik, P. A.; Fedorenko, M. A.; Kutnyak, V. P.; Sachok, V. V.; Kutnyak, S. P.; Lipkan, G. M.; Mkhitaryan, L. S.
PA Aktsionernoe Obshchestvo Zakrytogo Tipa "Farmatsevticheskaya Firma MLK", Ukraine
SO Russ., No pp. given
CODEN: RUXXE7
DT Patent
LA Russian
IC ICM C07K005-06
ICS C07F001-08; C07F003-06; C07F015-00; A61K038-01; A61P037-04
CC 78-7 (Inorganic Chemicals and Reactions)

Section cross-reference(s): 1

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RU 2181124	C2	20020410	RU 1999-105301	19990318 <--
PRAI	UA 1998-31412	A	19980320 <--		

AB MnM1L.mH2O (M = alkali metal, M1 = d-metal or alkaline-earth metal, HGluTrp glutamyltryptophan, n = amount of alkali metal, m = amount of H2O mols.) were prepared and have immunostimulating action on a living organism. For example, NaMnL.3H2O was prepared by the reaction of MnSO4.4H2O and glutamyltryptophan or its salt in a 1:1 ratio in aqueous medium at 0-100° with subsequent precipitation using an organic solvent.

ST transition metal glutamyltryptophan **complex** prepn immunostimulating property; alk earth glutamyltryptophan **complex** prepn immunostimulating property

IT Alkaline earth **complexes**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(glutamyltryptophan; preparation and immunostimulating properties)

IT Transition metal **complexes**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(peptide, glutamyltryptophan; preparation and immunostimulating properties)

IT Immunostimulants
(preparation of alkaline earth or transition metal glutamyltryptophan **complexes** with immunostimulating properties)

IT Peptides, preparation
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(transition metal **complexes**, glutamyltryptophan; preparation and immunostimulating properties)

IT 512167-53-2P 512167-54-3P 512167-55-4P **512167-56-5P** 512167-57-6P
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and immunostimulating properties)

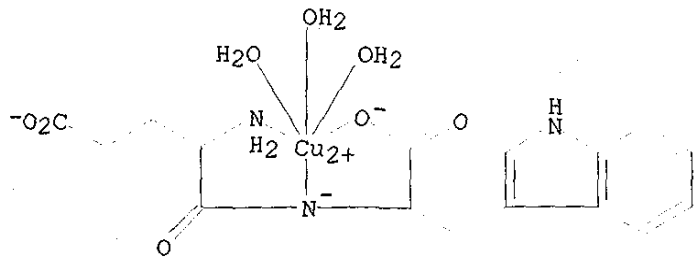
IT 1310-58-3, Potassium hydroxide, reactions 1310-65-2, Lithium hydroxide 1310-73-2, Sodium hydroxide, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of transition metal and alkaline earth glutamyl-L-tryptophan **complexes** as alkali metal salts)

IT 1317-38-0, **Cupric** oxide, reactions 7446-20-0, Zinc sulfate heptahydrate 7758-99-8, **Cupric** sulfate pentahydrate 7791-13-1, Cobalt dichloride hexahydrate 7791-20-0, Nickel dichloride hexahydrate 10101-68-5, Manganese(2+) sulfate tetrahydrate 12069-69-1 20427-59-2, **Cupric** hydroxide **38101-59-6**, L-Glutamyl-L-tryptophan
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of transition metal and alkaline-earth glutamyl-L-tryptophan **complexes**)

IT **512167-56-5P**
RL: PAC (Pharmacological activity); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation)
(preparation and immunostimulating properties)

RN 512167-56-5 HCAPLUS

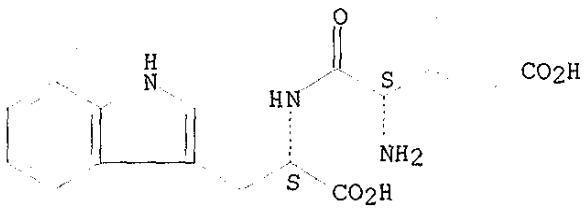
CN Cuprate(1-), triaqua[L-α-glutamyl-κN-L-tryptophanato(3-)-κN,κO]-, sodium (9CI) (CA INDEX NAME)



● Na^+

IT **38101-59-6**, L-Glutamyl-L-tryptophan
RL: RCT (Reactant); RACT (Reactant or reagent)
(reactant for preparation of transition metal and alkaline-earth glutamyl-L-tryptophan **complexes**)
RN 38101-59-6 HCAPLUS
CN L-Tryptophan, L-α-glutamyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L155 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **2002:412344** HCAPLUS
DN **136:374815**
ED Entered STN: 03 Jun 2002
TI Method for repairing corneal endothelium
IN Bagrov, S. N.; Ronkina, T. I.; Maklakova, I. A.; Zolotorevskii, A. V.
PA Obshchestvo S Ogranichennoi Otvetstvennost'yu "nauchno-Ehksperimental'noe Proizvodstvo Mikrokhirurgiya Glaza", Russia
SO Russ., No pp. given
CODEN: RUXXE7
DT Patent
LA Russian
IC ICM A61F009-007
ICS A61K031-726; A61K038-05
CC 63-6 (**Pharmaceuticals**)
Section cross-reference(s): 1, 14
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	RU 2165749	C1	20010427	RU 2000-117605	20000706 <--
	US 6629970	B2	20031007	US 2001-897953	20010705 <--
PRAI	RU 2000-117605	A	20000706 <--		

AB The method involves introducing an activating solution into the anterior eye segment. The solution has **carnosine**, glycosaminoglycan **complexes** with cations of at least one metal belonging to the group of calcium, magnesium, zinc, aluminum, **copper**, iron,

manganese. The solution reduced endothelium losses in the postoperative period and normalized cornea thickness.
ST eye cornea endothelium repair glycosaminoglycan **complex** soln formulation
IT Eye
(cornea, endothelium; glycosaminoglycan **complexes** for repairing corneal endothelium)
IT Glycosaminoglycans, biological studies
RL: PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(metal **complexes**; glycosaminoglycan **complexes** for repairing corneal endothelium)
IT Drug delivery systems
(solns.; glycosaminoglycan **complexes** for repairing corneal endothelium)
IT 7429-90-5D, Aluminum, glycosaminoglycan **complexes** 7439-89-6D, Iron, glycosaminoglycan **complexes** 7439-95-4D, Magnesium, glycosaminoglycan **complexes** 7439-96-5D, Manganese, glycosaminoglycan **complexes** **7440-50-8D, Copper**, glycosaminoglycan **complexes** 7440-66-6D, Zinc, glycosaminoglycan **complexes** 7440-70-2D, Calcium, glycosaminoglycan **complexes**
RL: PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(glycosaminoglycan **complexes** for repairing corneal endothelium)
IT **7440-50-8D, Copper**, glycosaminoglycan **complexes**
RL: PAC (Pharmacological activity); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(glycosaminoglycan **complexes** for repairing corneal endothelium)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

L155 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 2000:720718 HCAPLUS
DN 134:50794
ED Entered STN: 13 Oct 2000
TI Copper(II)-assisted enantiomeric analysis of D,L-amino acids using the kinetic method: chiral recognition and quantification in the gas phase
AU Tao, W. A.; Zhang, Duxi; Nikolaev, Eugene N.; Cooks, R. Graham
CS Department of Chemistry, Purdue University, West Lafayette, IN, 47907, USA
SO Journal of the American Chemical Society (2000), 122(43), 10598-10609
CODEN: JACSAT; ISSN: 0002-7863
PB American Chemical Society
DT Journal
LA English
CC 80-4 (Organic Analytical Chemistry)
Section cross-reference(s): 34, 73, 78
AB Chiral recognition of D- and L-amino acids is achieved and mixts. of enantiomers quantified in the gas phase, using the kinetics of competitive unimol. fragmentations of trimeric Cu(II)-bound complexes. Singly charged copper(II)-amino acid cluster ions [CuII(A)(ref*)2-H]+ (A = amino acid; ref* = chiral reference ligand, selected from among the natural α-amino acids) undergo competitive collision-induced dissociation (CID) in a quadrupole ion trap to form dimeric [CuII(A)(ref*)-H]+ and [CuII(ref*)2-H]+. The abundance ratio of these fragment ions depends

strongly on the stereochem. of the ligands in the precursor [CuII(A)(ref*)2-H]+ complex ion and specifically on the chirality of the analyte amino acid. The chiral selectivity, the ratio of the two fragment ion abundances for the complex containing one enantiomer of analyte expressed relative to that for the fragments of the corresponding complex containing the other enantiomer, ranges from 0.47 to 11. An energy quantity, Δ(ΔCuIIBDE), is predicted and shown to serve as a thermochem. indicator of chiral discrimination; its value is calculated from the fragment ion abundance ratios using the kinetic method of estimating thermochem. quantities from the kinetics of cluster ion dissociation Large chiral distinctions are observed with all of the natural chiral α-amino acids, except cysteine and arginine, by appropriate choice of the reference ligand. The Δ(ΔCuIIBDE) values range from -2.2 to 6.9 kJ/mol. Amino acids with aromatic substituents display the largest chiral distinction, which is consistent with ligand exchange chromatog. results for analogous systems. The structures of the fragment Cu(II) complexes are discussed in the light of the CID behavior of related compds. The interactions within these ions that might contribute to chiral recognition are rationalized to account for the observed chiral effects. The sensitive nature of the methodol. and the linear relation between the logarithm of the fragment ion abundance ratio and the optical purity, which is intrinsic to the kinetic method, allows mixts. to be analyzed for small enantiomeric excess (ee) by simply recording ratios of fragment ion abundances in a mass spectrum.

ST copper assisted chiral recognition amino acid gas phase

IT Substitution reaction kinetics
(coordinative; copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

IT Chiral recognition
Dissociation kinetics
Fragmentation reaction
Tandem mass spectrometry
(copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

IT Amino acids, analysis
RL: ANT (Analyte); ANST (Analytical study)
(copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

IT 3251-23-8, Copper dinitrate 7447-39-4, Copper dichloride, analysis
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
(Cu(II) source; copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

IT 56-45-1, L-Serine, analysis 56-86-0, L-Glutamic acid, analysis 63-68-3, L-Methionine, analysis 63-91-2, L-Phenylalanine, analysis 70-47-3, L-Asparagine, analysis 72-18-4, L-Valine, analysis 73-22-3, L-Tryptophan, analysis 147-85-3, L-Proline, analysis
RL: ANT (Analyte); ANST (Analytical study)
(analyte and reference amino acid; copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

IT 54-12-6, Tryptophan 56-41-7, L-Alanine, analysis 56-84-8, L-Aspartic acid, analysis 56-85-9, L-Glutamine, analysis 56-87-1, L-Lysine, analysis 59-51-8, Methionine 60-18-4, L-Tyrosine, analysis 61-90-5, L-Leucine, analysis 70-54-2, Lysine 71-00-1, L-Histidine, analysis 72-19-5, L-Threonine, analysis 73-32-5, L-Isoleucine, analysis 80-68-2, Threonine 150-30-1, Phenylalanine 153-94-6, D-Tryptophan 302-72-7, Alanine 302-84-1, Serine 312-84-5, D-Serine 319-78-8, D-Isoleucine 328-38-1, D-Leucine 328-39-2, Leucine 338-69-2, D-Alanine 344-25-2, D-Proline 348-67-4, D-Methionine 351-50-8, D-Histidine 443-79-8, Isoleucine 516-06-3, Valine 556-02-5,

D-Tyrosine 556-03-6, Tyrosine 609-36-9, Proline 617-45-8, Aspartic acid 617-65-2, Glutamic acid 632-20-2, D-Threonine 640-68-6, D-Valine 673-06-3, D-Phenylalanine 923-27-3, D-Lysine 1783-96-6, D-Aspartic acid 2058-58-4, D-Asparagine 3130-87-8, Asparagine 4998-57-6, Histidine 5959-95-5, D-Glutamine 6893-26-1, D-Glutamic acid 6899-04-3, Glutamine
RL: ANT (Analyte); ANST (Analytical study)
(analyte; copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

IT 312692-70-9
RL: ANT (Analyte); ANST (Analytical study)
(analyte; formation and mass spectrum of)

IT 147-85-3D, L-Proline, Copper complexes, properties 7440-50-8D, Copper, complexes with proline, properties 312691-98-8 312691-99-9
312692-00-5 312692-01-6 312692-02-7 312692-03-8 312692-05-0
312692-06-1 312692-07-2 312692-08-3 312692-09-4 **312692-10-7**
312692-11-8 312692-12-9 312692-13-0 312692-14-1 312692-16-3
312692-18-5 312692-20-9 312692-22-1 312692-55-0 312692-57-2
312692-59-4 312692-65-2 312692-66-3 312692-67-4 312692-68-5
312692-69-6 312692-71-0 312692-72-1 312692-73-2 312692-74-3
312694-99-8 312695-01-5 312695-02-6 312695-03-7 312695-21-9
312695-36-6 312695-37-7 312695-38-8 312695-39-9 312695-40-2
312695-41-3 312695-43-5 312695-44-6 **312695-49-1**
312695-51-5 312695-71-9 312695-74-2 312695-85-5
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation and mass spectrum of)

IT 312692-28-7 312692-30-1 312692-34-5 312692-35-6 312692-41-4
312692-44-7 312692-51-6 312692-52-7 312692-60-7 312692-61-8
312692-62-9 312692-63-0 312692-64-1 312696-06-3 312696-11-0
312696-12-1 312696-15-4 312696-16-5 312696-18-7 312696-19-8
312696-22-3 312696-23-4 312696-28-9 312696-31-4 312696-63-2
312696-88-1 312697-14-6 312702-39-9 312702-57-1 312702-67-3
312702-74-2 312702-93-5 312703-01-8 312703-64-3 312704-88-4
312705-56-9 312706-22-2 312706-89-1 312707-47-4
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation of)

IT 51-35-4, 4-Hydroxy-L-proline 74-79-3, L-Arg, analysis
RL: ARU (Analytical role, unclassified); NUU (Other use, unclassified); ANST (Analytical study); USES (Uses)
(reference amino acid; copper(II)-assisted enantiomeric anal. of D,L-amino acids using kinetic method: chiral recognition and quantification in gas phase)

RE.CNT 90 THERE ARE 90 CITED REFERENCES AVAILABLE FOR THIS RECORD
RE

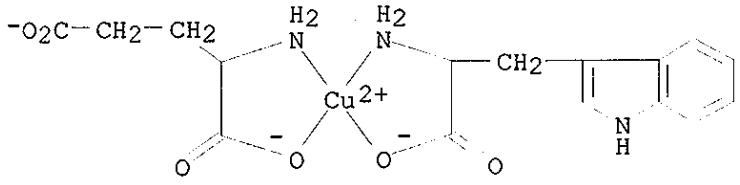
(1) Alvarez, E; Anal Chem 1997, V69, P1147 HCAPLUS
(2) Armentrout, P; J Am Soc Mass Spectrom 2000, V11, P371 HCAPLUS
(3) Armentrout, P; J Mass Spectrom 1999, V34, P74 HCAPLUS
(4) Bailey, J; Science 1998, V281, P672 MEDLINE
(5) Balla, J; J Chem Soc, Dalton Trans 1993, V7, P1143
(6) Beyer, M; J Am Chem Soc 1996, V118, P7386 HCAPLUS
(7) Bowers, M; J Phys Chem 1996, V31, P12897
(8) Busch, K; Mass Spectrometry/Mass Spectrometry:Techniques and Applications of Tandem Mass Spectrometry 1988
(9) Camara, E; J Am Chem Soc 1996, V118, P8751 HCAPLUS
(10) Cerda, B; Int J Mass Spectrom 1999, V193, P205 HCAPLUS
(11) Cerda, B; J Am Chem Soc 1995, V117, P9734 HCAPLUS
(12) Cooks, R; J Am Chem Soc 1977, V99, P1279 HCAPLUS
(13) Cooks, R; J Mass Spectrom 1999, V34, P85 HCAPLUS
(14) Cooks, R; Mass Spectrom Rev 1994, V13, P287 HCAPLUS
(15) Cooks, R; Metastable Ions 1973

(16) Cooks, R; Rapid Commun Mass Spectrom 1991, V5, P93 HCAPLUS
(17) Cotton, F; Advanced Inorganic Chemistry, 4th ed 1988
(18) Davankov, V; J Chromatogr A 1994, V666, P55 HCAPLUS
(19) Davankov, V; Koord Khim 1977, V3, P988
(20) Davankov, V; Ligand Exchange Chromatography 1988
(21) Dearden, D; J Am Chem Soc 1997, V119, P353 HCAPLUS
(22) Denault, J; Int J Mass Spectrom Ion Processes 1997, V175, P205
(23) Deng, H; J Am Chem Soc 1998, V120, P2925 HCAPLUS
(24) Denisov, E; Int J Mass Spectrom Ion Processes 1997, V167, P259
(25) Drahos, L; J Mass Spectrom 1999, V34, P79 HCAPLUS
(26) Engel, M; Nature 1997, V389, P265 HCAPLUS
(27) Fales, H; J Am Chem Soc 1977, V99, P2339 HCAPLUS
(28) Feng, W; J Am Chem Soc 1999, V121(1), P1365
(29) Fenn, J; Mass Spectrom Rev 1990, V9, P37 HCAPLUS
(30) Fillippi, A; Int J Mass Spectrom 2000, V198, P137
(31) Gatlin, C; J Am Chem Soc 1995, V117, P3637 HCAPLUS
(32) Gatlin, C; J Mass Spectrom 1995, V30, P1605 HCAPLUS
(33) Gatlin, C; J Mass Spectrom 1995, V30, P1617 HCAPLUS
(34) Gillard, R; Inorg Chim Acta Rev 1967, V1, P69 HCAPLUS
(35) Gubitz, G; J Chromatogr 1981, V203, P377
(36) Guo, J; Angew Chem, Int Ed Engl 1999, V38, P1755 HCAPLUS
(37) Henry, C; Anal Chem 1999, V71, P264A HCAPLUS
(38) Hillenkamp, F; Anal Chem 1991, V63, P1193A HCAPLUS
(39) Hofmeister, G; Org Mass Spectrom 1991, V26, P811 HCAPLUS
(40) Hoke, S; J Am Chem Soc 1994, V116, P4888 HCAPLUS
(41) Holme, D; Analytical Biochemistry 1993
(42) Hu, P; J Am Chem Soc 1992, V114, P9153 HCAPLUS
(43) Hu, P; J Am Chem Soc 1992, V114, P9161 HCAPLUS
(44) Hu, P; J Am Chem Soc 1995, V117, P11314 HCAPLUS
(45) Hutt, L; Anal Chem 1999, V71, P4000 HCAPLUS
(46) Karlin, K; Bioinorganic Chemistry of Copper 1993
(47) Lavanant, H; J Am Soc Mass Spectrom 1998, V9, P1217 HCAPLUS
(48) Lee, S; J Am Chem Soc 1999, V121, P10152 HCAPLUS
(49) Levsen, K; Fundamental Aspects of Organic Mass Spectrometry 1978
(50) Liang, Y; Int J Mass Spectrom 1999, V187, P977
(51) Lippard, S; Principles of Bioinorganic Chemistry 1994
(52) Luna, A; J Am Chem Soc 1998, V120, P5411 HCAPLUS
(53) Ma, S; J Am Chem Soc 1996, V118, P6010 HCAPLUS
(54) Marchand, A; Applications of NMR Spectroscopy to Problems in Stereochemistry and Conformational Analysis 1986
(55) Masuda, H; Inorg Chim Acta 1991, V180, P73 HCAPLUS
(56) McLuckey, S; J Am Chem Soc 1981, V103, P1313 HCAPLUS
(57) Melnik, M; J Coord Chem 1997, V41, P35 HCAPLUS
(58) Nemirovskiy, O; J Am Soc Mass Spectrom 1998, V9, P1020 HCAPLUS
(59) Nikolaev, E; Adv Mass Spectrom 1998, V14, P279
(60) Nikolaev, E; Int J Mass Spectrom 1999, V183, P357
(61) Patrick, J; J Am Chem Soc 1996, V118, P231 HCAPLUS
(62) Paulic, N; J Coord Chem 1994, V31, P181 HCAPLUS
(63) Piccirillo, S; Angew Chem, Int Ed Engl 1997, V36, P1729 HCAPLUS
(64) Piguet, C; Chem Rev 1997, V97, P2005 HCAPLUS
(65) Pirkle, W; Chem Rev 1989, V89, P327
(66) Pizzarello, S; Nature 1998, V394, P236 HCAPLUS
(67) Ramirez, J; J Am Chem Soc 1998, V120, P7387 HCAPLUS
(68) Salem, L; J Am Chem Soc 1987, V109, P2887 HCAPLUS
(69) Sawada, M; J Am Chem Soc 1995, V117, P7726 HCAPLUS
(70) Sawada, M; J Chem Soc, Perkin Trans 2 1998, V3, P701
(71) Sawada, M; Mass Spectrom Rev 1997, V16, P73 HCAPLUS
(72) Schroder, D; J Phys Chem 1999, V103, P7385
(73) Schroeter, K; Eur J Org Chem 1998, V4, P565
(74) Shen, W; Rapid Commun Mass Spectrom 1997, V11, P71 HCAPLUS
(75) Sigel, H; Inorg Chim Acta 1985, V100, P151 HCAPLUS
(76) Sigsby, M; Ph D Thesis, Purdue University 1980
(77) Smith, G; J Am Chem Soc 1996, V118, P3293 HCAPLUS

(78) Smith, G; J Am Chem Soc 1998, V120, P13046 HCAPLUS
(79) Splitter, J; Applications of Mass Spectrometry to Organic Stereochemistry 1994
(80) Tao, W; Anal Chem 1999, V71, P4427 HCAPLUS
(81) Tao, W; Angew Chem, Int Ed, Engl submitted
(82) Turecek, F; Collect Czech Chem Commun 1987, V52, P1928 HCAPLUS
(83) Veenstra, T; Biophys Chem 1999, V79, P63 HCAPLUS
(84) Vekey, K; Anal Chem 1997, V69, P1700 HCAPLUS
(85) Wells, J; Proc Natl Acad Sci U S A 1996, V93, P1 HCAPLUS
(86) Williams, D; J Am Chem Soc 1968, V90, P6759 HCAPLUS
(87) Yamauchi, O; Inorg Chim Acta 1992, V198-200, P749 HCAPLUS
(88) Yamauchi, O; J Am Chem Soc 1985, V107, P5938 HCAPLUS
(89) Yao, Z; Chem Commun 1999, V20, P2119
(90) Zhang, D; Int J Mass Spectrom in press

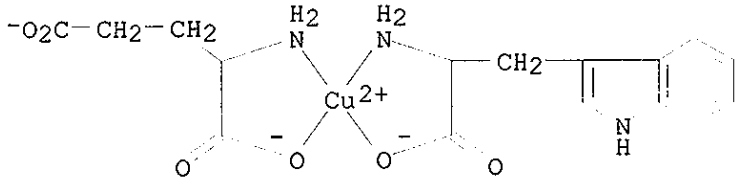
IT **312692-10-7 312695-49-1**
RL: FMU (Formation, unclassified); PRP (Properties); FORM (Formation, nonpreparative)
(formation and mass spectrum of)

RN 312692-10-7 HCAPLUS
CN Cuprate(1-), [L-glutamato(2-)-κN,κO1](L-tryptophanato-κN,κO)-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



●2 H^+

RN 312695-49-1 HCAPLUS
CN Cuprate(1-), [L-glutamato(2-)-κN,κO1](D-tryptophanato-κN,κO)-, dihydrogen, (SP-4-2)- (9CI) (CA INDEX NAME)



●2 H^+

L155 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **2000:381407** HCAPLUS
DN **133:16701**
ED Entered STN: 08 Jun 2000
TI Metallic oligopeptide **complexes**
IN Hendler, Sheldon S.; Miljkovic, Dusan; Sanchez, Robert
PA Vyrex Corporation, USA
SO U.S., 6 pp.

CODEN: USXXAM
DT Patent
LA English
IC ICM A23L001-304
ICS A23L001-305
NCL 426074000
CC 17-6 (Food and Feed Chemistry)
Section cross-reference(s): 63
FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI US 6071545	A	20000606	US 1999-243762	19990203 <--
PRAI US 1999-243762		19990203 <--		

AB An oligopeptide-metal **complex** containing a metal ion selected from the group Cr, Zn, Mn, Mg, Ca, **Cu**, Fe, V, Co, Mo, Ge, Se or In and a 2-10 amino acid oligopeptide is an additive for food, beverages or dietary supplements.

ST oligopeptide metal **complex** food beverage pharmaceutical

IT Rice (Oryza sativa)
Rice (Oryza sativa)
(flour; metallic oligopeptide **complexes** for the food and beverage industry)

IT Rice (Oryza sativa)
(food compns.; metallic oligopeptide **complexes** for the food and beverage industry)

IT Beverages
Drug delivery systems
Food additives
Food functional properties
(metallic oligopeptide **complexes** for the food and beverage industry)

IT Metals, biological studies
RL: FFD (Food or feed use); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(oligopeptide **complexes**; metallic oligopeptide **complexes** for the food and beverage industry)

IT Peptides, biological studies
RL: FFD (Food or feed use); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(oligopeptides, metal **complexes**; metallic oligopeptide **complexes** for the food and beverage industry)

IT Flours and Meals
Flours and Meals
(rice; metallic oligopeptide **complexes** for the food and beverage industry)

IT **305-84-0D, Carnosine**, metal **complexes**
7439-89-6D, Iron, oligopeptide **complexes**, biological studies
7439-95-4D, Magnesium, oligopeptide **complexes**, biological studies 7439-96-5D, Manganese, oligopeptide **complexes**, biological studies 7439-98-7D, Molybdenum, oligopeptide **complexes**, biological studies 7440-47-3D, Chromium, oligopeptide **complexes**, biological studies 7440-48-4D, Cobalt, oligopeptide **complexes**, biological studies **7440-50-8D, Copper**, oligopeptide **complexes**, biological studies 7440-56-4D, Germanium, oligopeptide **complexes**, biological studies
7440-62-2D, Vanadium, oligopeptide **complexes**, biological studies
7440-66-6D, Zinc, oligopeptide **complexes**, biological studies
7440-70-2D, Calcium, oligopeptide **complexes**, biological studies
7440-74-6D, Indium, oligopeptide **complexes**, biological studies
7782-49-2D, Selenium, oligopeptide **complexes**, biological studies
272774-68-2
RL: FFD (Food or feed use); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)

(metallic oligopeptide **complexes** for the food and beverage industry)

IT **305-84-0, Carnosine** 10060-12-5, Chromium chloride hexahydrate
RL: RCT (Reactant); RACT (Reactant or reagent)
(metallic oligopeptide **complexes** for the food and beverage industry)

RE.CNT 15 THERE ARE 15 CITED REFERENCES AVAILABLE FOR THIS RECORD

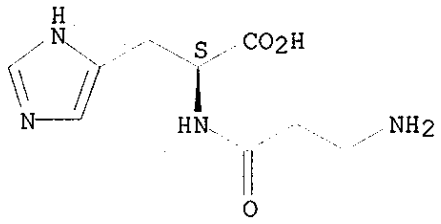
RE

(1) Abdel-Monem; US 4948594 1990 HCAPLUS
(2) Anon; Guide to Clinical Trials 1991, P675
(3) Baldwin, E; Dynamic Aspects of Biochemistry 4th Ed 1963, P126
(4) Baldwin, E; Dynamic Aspects of Biochemistry 4th Ed 1963, P316
(5) Baldwin, E; Dynamic Aspects of Biochemistry 4th Ed 1963, P321
(6) Corrigan, J; Science 1969, V169, P142
(7) Godfrey; US 4684528 1987 HCAPLUS
(8) Hasler, C; Nutritional Reviews 1996, V54, PS60S10
(9) Houdjik; Lancet 1998, V352, P772
(10) Lehninger; Principles of Biochemistry 2nd Ed 1993, P652
(11) Lehninger; Principles of Biochemistry 2nd Ed 1993, P717
(12) Morlion; Ann surg 1998, V227, P302 MEDLINE
(13) Olson; Modern Nutrition in Health and Disease 9th Ed 1999, P14 HCAPLUS
(14) Paul; US 5292538 1994 HCAPLUS
(15) Wernerman, J; Lancet 1998, V352, P756 MEDLINE

IT **305-84-0D, Carnosine**, metal **complexes**
7440-50-8D, Copper, oligopeptide **complexes**, biological studies
RL: FFD (Food or feed use); **THU (Therapeutic use)**; BIOL (Biological study); USES (Uses)
(metallic oligopeptide **complexes** for the food and beverage industry)

RN 305-84-0 HCAPLUS
CN L-Histidine, β-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



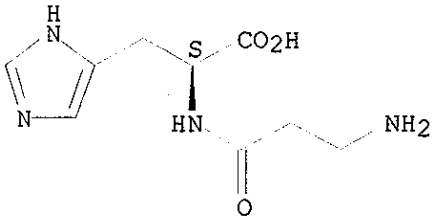
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

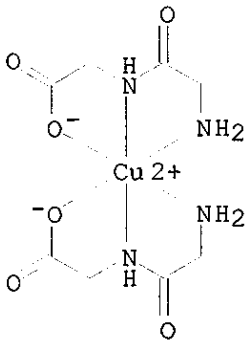
IT **305-84-0, Carnosine**
RL: RCT (Reactant); RACT (Reactant or reagent)
(metallic oligopeptide **complexes** for the food and beverage industry)

RN 305-84-0 HCAPLUS
CN L-Histidine, β-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.

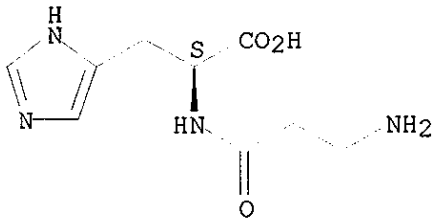


L155 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1998:282613 HCAPLUS
DN 128:314484
ED Entered STN: 15 May 1998
TI Determination and theoretical analysis of the spectrum of complexes of glycylglycine dipeptide with Cu (II) and Ni (II) ions in solution
AU Ma, Guibin; Yang, Pin; Cao, Yaoshan
CS Department of Chemistry, Shanxi University, Taiyuan, 030006, Peop. Rep. China
SO Shanxi Daxue Xuebao, Ziran Kexueban (**1998**), 21(1), 67-71
CODEN: SDXKDT; ISSN: 0253-2395
PB Shanxi Daxue Xuebao Bianjibu
DT Journal
LA Chinese
CC 73-4 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 9
AB Copper and nickel are necessary trace elements of human body. They are often to form complexes with amino acid, polypeptide and protein in biol. system. In this paper, it has been studied that the spectrum of complexes of glycylglycine dipeptide with Cu(II), Ni(II) in solution Based on the Model of DSCPCF, their spectrum have been analyzed. The result is satisfying.
ST glycylglycine dipeptide copper nickel complex spectra
IT UV and visible spectra
(determination and theor. anal. of spectra of complex of glycylglycine dipeptide with Cu (II) and Ni (II) ion in solution)
IT Coordination compounds
RL: PRP (Properties)
(determination and theor. anal. of spectra of complex of glycylglycine dipeptide with Cu (II) and Ni (II) ion in solution)
IT 16884-48-3 **28488-64-4**
RL: PRP (Properties)
(determination and theor. anal. of spectra of complex of glycylglycine dipeptide with Cu (II) and Ni (II) ion in solution)
IT **28488-64-4**
RL: PRP (Properties)
(determination and theor. anal. of spectra of complex of glycylglycine dipeptide with Cu (II) and Ni (II) ion in solution)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



L155 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **1993:15741** HCAPLUS
DN **118:15741**
ED Entered STN: 24 Jan 1993
TI Prospects in the design of **carnosine**-based drugs: some new principles
AU Gulyaeva, N. V.
CS Inst. Higher Nerv. Act. Neurophysiol., Moscow, Russia
SO Biokhimiya (Moscow) (**1992**), 57(9), 1398-403
CODEN: BIOHAO; ISSN: 0320-9725
DT Journal; General Review
LA Russian
CC 1-0 (**Pharmacology**)
AB A review with 34 refs. Combination of **carnosine** with other antioxidants and the use of **copper** or zinc **complexes** with histidine-containing dipeptides are considered as perspective trends in the design of new drugs.
ST review **carnosine** analog design
IT **305-84-0D, Carnosine**, analogs
RL: BIOL (Biological study)
(design and pharmacol. of)
IT **305-84-0D, Carnosine**, analogs
RL: BIOL (Biological study)
(design and pharmacol. of)
RN 305-84-0 HCAPLUS
CN L-Histidine, β-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L155 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **1992:143889** HCAPLUS
DN **116:143889**
ED Entered STN: 17 Apr 1992
TI Use of **copper**(II)-containing compounds to accelerate wound healing, and preparation of **copper**(II) **complexes** with peptides

IN Pickart, Loren R.
PA Procyte Corp., USA
SO PCT Int. Appl., 44 pp.
CODEN: PIXXD2
DT Patent
LA English
IC ICM A61K033-34
ICS A61K037-02; A61K037-14
CC 1-12 (**Pharmacology**)
Section cross-reference(s): 34, 78
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	WO 9114437	A2	19911003	WO 1991-US2028	19910326 <--
	WO 9114437	A3	19911128		
	W: AU, CA, FI, JP, KR, NO				
	RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LU, NL, SE				
	US 5164367	A	19921117	US 1990-499606	19900326 <--
	AU 9175650	A1	19911021	AU 1991-75650	19910326 <--
	EP 522004	A1	19930113	EP 1991-907108	19910326 <--
	EP 522004	B1	19991215		
	R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	JP 05505808	T2	19930826	JP 1991-506664	19910326 <--
	AT 187646	E	20000115	AT 1991-907108	19910326 <--
	CA 2078347	AA	19910927	CA 1991-2078347	19910327 <--
	CA 2078347	C	19960702		
PRAI	US 1990-499606		19900326 <--		
	WO 1991-US2028		19910326 <--		

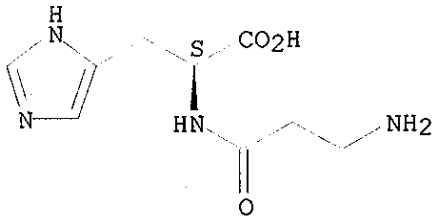
OS MARPAT 116:143889
AB **Cu**(II)-containing compds. are provided for use as active therapeutic substances to accelerate wound healing in warm-blooded animals, as well as for the manufacture of medicaments for this use. Methods of the invention include systemic loading of **Cu**(II) to accelerate the rate of wound healing following injury or surgery. The compds. of the invention include **Cu**(II) **complexes** with amino acids and peptides, as well as **Cu**(II) salts. Preparation of peptides and their **Cu**(II) **complexes** is described. The compds. of the invention were tested in animal models of simulated wound healing.
ST wound healing **copper** peptide **complex**; salt **copper** wound healing
IT Wound healing promoters
(**copper complexes** with amino acids and peptides)
IT Peptides, compounds
RL: BIOL (Biological study)
(**copper complexes**, for wound healing)
IT Amino acids, compounds
RL: BIOL (Biological study)
(**copper complexes**, for wound healing)
IT 556-33-2D, Glycyl-glycyl-glycine, **copper complexes**
7440-50-8D, Copper, complexes with amino acids and peptides **7440-50-8D, Copper**, salts 17263-57-9
49557-75-7D, Glycyl-L-histidyl-L-lysine, **copper complexes**
RL: BIOL (Biological study)
(for wound healing)
IT 104768-75-4P 136994-52-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of, for wound-healing **copper**-peptide **complex** preparation)
IT 136994-40-6 136994-58-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, in preparation of wound-healing **copper**-peptide **complex**)

IT 7758-98-7, **Cupric** sulfate, biological studies
RL: BIOL (Biological study)
(wound healing activity of)
IT **305-84-0D, copper complexes** 556-33-2D, **copper complexes** 62024-08-2D, **copper complexes** 63576-14-7 105108-02-9D, **copper complexes** 122022-55-3D, **copper complexes** 126828-32-8D, **copper complexes** 130024-52-1D, **copper complexes** 136994-40-6D, **copper complexes** 136994-48-4D, **copper complexes** 138277-37-9D, **copper complexes** 138580-04-8D, **copper complexes**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(wound healing activity of)
IT **7440-50-8D, Copper, complexes** with amino acids and peptides
RL: BIOL (Biological study)
(for wound healing)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

IT **305-84-0D, copper complexes**
RL: BAC (Biological activity or effector, except adverse); BSU (Biological study, unclassified); BIOL (Biological study)
(wound healing activity of)
RN 305-84-0 HCAPLUS
CN L-Histidine, β-alanyl- (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L155 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1990:209695 HCAPLUS
DN 112:209695
ED Entered STN: 26 May 1990
TI Electron spin resonance study of copper(II) complexes of X-glycine and glycyl-X type dipeptides, and related tripeptides. Variation of coordination modes with ligand excess and pH in fluid and frozen aqueous solutions
AU Szabo-Planka, Terezia; Peintler, Gabor; Rockenbauer, Antal; Gyor, Miklos; Varga-Fabian, Maria; Institorisz, Laszlo; Balazspiri, Lajos
CS Inst. Gen. Phys. Chem., Attila Jozsef Univ., Szeged, H-6701, Hung.
SO Journal of the Chemical Society, Dalton Transactions: Inorganic Chemistry (1972-1999) (**1989**), (10), 1925-32
CODEN: JCDTBI; ISSN: 0300-9246
DT Journal
LA English
CC 78-7 (Inorganic Chemicals and Reactions)

AB Coordination modes for the various Cu(II) complexes of glycine (Gly)-containing di- and tripeptides (HL) with noncoordinating side-chains were studied. The ESR spectra of predominant species at 1:1, 2:1, and 50:1 ligand:metal concentration ratios in the region pH ≈6-13 have been recorded in fluid and frozen aqueous solns. and evaluated by computer simulation. The energies of the d-d electronic transitions were determined by Gaussian anal. of the visible absorption spectra. Mol.-orbital coeffs. characteristic of metal-ligand bonds for the various 1:1 and 1:2 complexes were calculated assuming effective D4h symmetry. At ligand excess in alkaline solution, the temperature strongly affects the chemical equilibrium: low temperature promotes the formation of 1:2 complexes: [Cu(HL)L]- at pH ≈9, and [CuL2]2- at pH 13 for X-Gly type dipeptides. In the predominant isomers of these complexes 1 of the dipeptide mols. is coordinated equatorially through its amino N, deprotonated peptide N, and carboxylate O atoms. The amino group of the other dipeptide occupies an axial position, while the 4th equatorial donor atom is either the peptide O (pH .apprx.9) or the deprotonated peptide N (pH .apprx.13) of the 2nd ligand. In the latter case, axial coordination of the 2nd carboxylate group is also likely. Competition can be observed between the σ and π bonds in the equatorial plane on the one hand, and between the σ bonds of different symmetries on the other hand. The influence of the coordination modes, the type of ligand, and the temperature on the covalent character of the metal-ligand bonds is discussed.

ST copper glycine dipeptide tripeptide structure; dipeptide glycine copper coordination mode; tripeptide glycine copper coordination mode

IT Electron spin resonance
Ultraviolet and visible spectra
(of copper complexes with glycine-containing dipeptides and tripeptides)

IT Coordination
(of glycine-containing di- and tripeptides to copper)

IT Peptides, compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(di-, glycine-containing, copper complexes, formation and structure and ESR of)

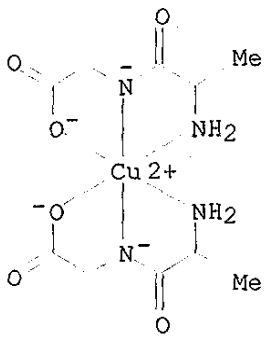
IT Peptides, compounds
RL: RCT (Reactant); RACT (Reactant or reagent)
(tri-, glycine-containing, copper complexes, formation and structure and ESR of)

IT 60414-34-8P 60479-77-8P 122423-97-6P 126368-83-0P 126368-84-1P
126368-85-2P 126420-37-9P 126420-38-0P 126420-39-1P
126501-09-5P 126501-10-8P 126501-11-9P 126501-12-0P
126501-13-1P 126501-14-2P 126501-16-4P 126501-30-2P 126540-97-4P
126541-08-0P 126640-43-5P 126913-44-8P 126913-45-9P
126913-46-0P 126913-47-1P 126913-48-2P 126913-49-3P 126942-96-9P
126942-97-0P 126942-98-1P 126976-65-6P 127000-73-1P
RL: PREP (Preparation)
(formation and structure and ESR of, pH in relation to)

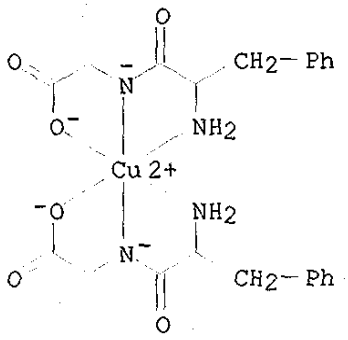
IT **126501-09-5P 126541-08-0P 126640-43-5P**
RL: PREP (Preparation)
(formation and structure and ESR of, pH in relation to)

RN 126501-09-5 HCAPLUS

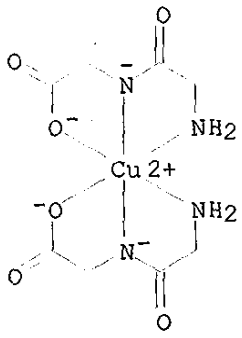
CN Cuprate(2-), bis[N-L-alanylglycinato(2-)-N,N',O1]-, (OC-6-33')- (9CI) (CA INDEX NAME)



RN 126541-08-0 HCAPLUS
CN Cuprate(2-), bis[N-L-phenylalanylglycinato(2-)-N,N',O1]-, (OC-6-33')-
(9CI) (CA INDEX NAME)



RN 126640-43-5 HCAPLUS
CN Cuprate(2-), bis[N-glycyl-κN-glycinato(2-)-κN,κO]-,
(OC-6-33')- (9CI) (CA INDEX NAME)



L155 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **1989:219070** HCAPLUS
DN **110:219070**
ED Entered STN: 10 Jun 1989
TI Preparation of pharmaceutical-grade amino acid chelates free of
interfering anions
IN Ashmead, Harvey Harold
PA Albion International, Inc., USA
SO Eur. Pat. Appl., 12 pp.

CODEN: EPXXDW
DT Patent
LA English
IC ICM C07C099-00
ICS C07C051-41
CC 63-5 (**Pharmaceuticals**)
Section cross-reference(s): 34
FAN.CNT 1

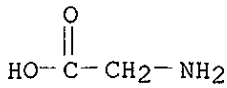
	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	EP 256645	A2	19880224	EP 1987-305813	19870701
	EP 256645	A3	19881109		
	EP 256645	B1	19911211		
	R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
	US 4830716	A	19890516	US 1986-882150	19860703
	US 4830716	B1	19991207		
	AT 70259	E	19911215	AT 1987-305813	19870701
	ES 2037715	T3	19930701	ES 1987-305813	19870701
	JP 63079859	A2	19880409	JP 1987-165546	19870703
	JP 2547026	B2	19961023		
	CA 1299812	A1	19920428	CA 1987-541185	19870703
PRAI	US 1986-882150		19860703		
	EP 1987-305813		19870701		

OS MARPAT 110:219070
AB Pharmaceutical-grade amino acid or peptide chelates, free of interfering anions, are prepared by reacting an anion-free ligand (selected from naturally occurring amino acids, **dipeptides**, tripeptides, or tetrapeptides) in an aqueous reaction medium with a metal source (selected from metals, metal oxides, hydroxides, and carbonates) where the metal is selected from Ca, **Cu**, Fe, Mg, Mn, Zn, Mo, Co, Se, and V, and where the metal:ligand molar ratio is ≥2:1, and recovering the chelate. To 83 parts H2O was added 2 parts citric acid and 13 parts glycine, followed by 2 parts Mg turnings. The mixture was set aside for 48 h, and 8 parts citric acid was added. The reaction mixture was heated to 100° and spray dried to produce a Mg diglycine chelate powder having Mg content .apprx.10%.
ST amino acid metal chelate prepn; peptide metal chelate prepn; glycine magnesium chelate prepn
IT Electrolytes
(in amino acid chelate preparation)
IT Carbonates, reactions
Hydroxides
Oxides, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amino acids in pharmaceutical-grade chelate preparation)
IT Amino acids, compounds
RL: PREP (Preparation)
(**complexes**, preparation of pharmaceutical-grade)
IT **Peptides, compounds**
RL: PREP (Preparation)
(**di-, complexes**, preparation of pharmaceutical-grade)
IT Drying
(drum, of amino acid chelates)
IT Alkali metals, compounds
RL: PREP (Preparation)
(salts, electrolyte solution containing, in preparation of amino acid chelates)
IT Drying
(spray, of amino acid chelates)
IT Peptides, compounds
RL: PREP (Preparation)
(tetra-, **complexes**, preparation of pharmaceutical-grade)
IT Peptides, compounds

RL: PREP (Preparation)
(tri-, **complexes**, preparation of pharmaceutical-grade)
IT 50-81-7, L-Ascorbic acid, biological studies 64-19-7, Acetic acid, biological studies 77-92-9, Citric acid, biological studies 463-79-6, Carbonic acid, biological studies 497-19-8, Sodium carbonate, biological studies 506-87-6, Ammonium carbonate 631-61-8, Ammonium acetate 5574-01-6, Ammonium ascorbate 7632-50-0, Ammonium citrate
RL: BIOL (Biological study)
(electrolyte solution containing, in preparation of pharmaceutical-grade amino acid
chelates)
IT 57-48-7, Fructose, biological studies
RL: BIOL (Biological study)
(in amino acid chelate preparation, pharmaceutical-grade)
IT 7439-89-6DP, Iron, amino acid chelates 7439-95-4DP, Magnesium, amino acid chelates 7439-96-5DP, Manganese, amino acid chelates 7439-98-7DP, Molybdenum, amino acid chelates 7440-48-4DP, Cobalt, amino acid chelates **7440-50-8DP, Copper**, amino acid chelates 7440-62-2DP, Vanadium, amino acid chelates 7440-66-6DP, Zinc, amino acid chelates 7440-70-2DP, Calcium, amino acid chelates 7782-49-2DP, Selenium, amino acid chelates 13479-54-4P 14783-68-7P 15841-51-7P 33242-26-1P 34369-82-9P
RL: PREP (Preparation)
(preparation of pharmaceutical-grade)
IT 471-34-1, Carbonic acid calcium salt (1:1), reactions 546-93-0, Magnesium carbonate 598-62-9 1305-62-0, Calcium hydroxide, reactions 1305-78-8, Calcium oxide, reactions 1309-42-8, Magnesium hydroxide (Mg(OH)2) 1309-48-4, Magnesium oxide, reactions 1314-13-2, Zinc oxide, reactions 1332-37-2, Iron oxide (unspecified), reactions 1344-70-3, **Copper** oxide (unspecified) 3486-35-9 7492-68-4, **Copper** carbonate (unspecified) 10290-71-8, Iron carbonate (unspecified) 11129-60-5, Manganese oxide (unspecified) 18624-44-7, Iron hydroxide (Fe(OH)2) 18933-05-6, Manganese hydroxide (Mn(OH)2) 20427-58-1, Zinc hydroxide 20427-59-2, **Copper** hydroxide (**Cu**(OH)2)
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with amino acids in pharmaceutical-grade chelate preparation)
IT **56-40-6**, Glycine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with magnesium)
IT **7440-50-8DP, Copper**, amino acid chelates
RL: PREP (Preparation)
(preparation of pharmaceutical-grade)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

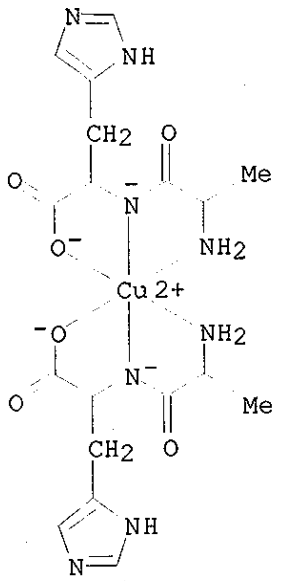
Cu

IT **56-40-6**, Glycine, reactions
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with magnesium)
RN 56-40-6 HCAPLUS
CN Glycine (8CI, 9CI) (CA INDEX NAME)



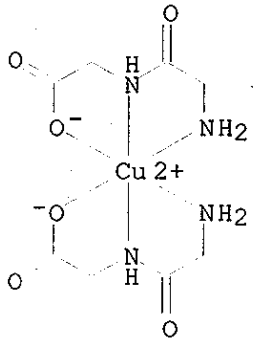
L155 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN

AN 1980:206424 HCAPLUS
DN 92:206424
ED Entered STN: 12 May 1984
TI Charge-transfer absorptions of copper(II)-imidazole and copper(II)-imidazolate chromophores
AU Fawcett, Timothy G.; Bernarducci, Ernest E.; Krogh-Jespersen, Karsten; Schugar, Harvey J.
CS Dep. Chem., Rutgers, State Univ. New Jersey, New Brunswick, NJ, 08903, USA
SO Journal of the American Chemical Society (1980), 102(8), 2598-604
CODEN: JACSAT; ISSN: 0002-7863
DT Journal
LA English
CC 73-3 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB Electronic spectra over the 50,000-20,000-cm-1 region are reported for well-characterized chromophores having Cu(II)-imidazole (ImH) and Cu(II)-imidazolate (Im-) units. For tetragonal Cu(II)-ImH chromophores, 3 ligand to metal charge-transfer (LMCT) absorptions originate from the σ-symmetry N donor lone pair and from 2 π-symmetry ring orbitals, 1 having primarily C character (π1) and the other having primarily n character (π2). These σ(ImH) →, π2(ImH) →, and π1(ImH) → Cu(II) LMCT absorptions occur at .apprx.220, .apprx.260, and .apprx.330 nm, resp. Ligand rotation causes the π-symmetry absorptions to be broadened for solns. containing geometrically unconstrained Cu(II)-ImH complexes. The π-symmetry absorptions generally are well-resolved spectral features of crystalline complexes, and may be split when the ImH groups have nonequivalent orientations. The σ(ImH) → Cu(II) absorption at 220 nm is insensitive to ligand rotation about the Cu-N axis, and is well resolved from the ligand-localized absorption at .apprx.205 nm. The Cu(II)-Im- complexes exhibit an addnl. and characteristic broad absorption at .apprx.375 nm for which a tentative assignment has been suggested. Tetragonal type 2 and type 3 Cu protein chromophores are expected to exhibit corresponding π(ImH) → Cu(II) LMCT transitions in the near-UV region. Such absorptions are expected to be red shifted for the approx. tetrahedral type 1 Cu chromophores. The reported spectra of the above types of proteins briefly are reconsidered from this point of view.
ST copper imidazole UV visible; visible spectra copper imidazole
IT Electron configuration
(of copper imidazole complexes)
IT Ultraviolet and visible spectra
(of copper imidazole complexes, charge-transfer absorptions in)
IT **33874-31-6** 41678-54-0 60583-90-6 70586-73-1
RL: PRP (Properties)
(electronic absorption spectrum of, charge-transfer absorption in)
IT **33874-31-6**
RL: PRP (Properties)
(electronic absorption spectrum of, charge-transfer absorption in)
RN 33874-31-6 HCAPLUS
CN Cuprate(2-), bis[N-L-alanyl-L-histidinato(2-)-N,NN,Oα]- (9CI) (CA INDEX NAME)



L155 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1980:36719 HCAPLUS
DN 92:36719
ED Entered STN: 12 May 1984
TI Specificity of superoxide dismutase in catalyzing redox reactions: a pulse radiolysis study
AU Wardman, P.
CS Cancer Res. Campaign, Mount Vernon Hosp., Northwood/Middlesex, HA6 2RN, UK
SO Studies in Physical and Theoretical Chemistry (1979), 6(Radiat. Biol. Chem.: Res. Dev.), 189-96
CODEN: SPTCDZ; ISSN: 0167-6881
DT Journal
LA English
CC 7-3 (Enzymes)
AB The rates of reaction of several electron donors with the Cu(II) enzyme bovine superoxide dismutase (E.C. 1.15.1.1) in the absence of O were observed by pulse radiolysis. Reducing agents included radicals obtained on 1-electron reduction of a quinone, FMN, NAD, and some nitroarom. compds. The most reactive of these radicals (a semiquinone, 9,10-anthraquinone-2-sulfonate sodium salt) reduced the enzyme at a rate .apprx.10-fold slower than superoxide, but the reactions were not catalytic. Some simple Cu(II) complexes were studied for comparison. The high specificity of the enzyme for O2- may result from both kinetic and thermodn. factors.
ST superoxide dismutase redox specificity; kinetics superoxide dismutase
IT Kinetics, reaction
(of copper-amino acid complexes with nitroacetophenone, superoxide dismutase reaction kinetics in relation to)
IT Kinetics, enzymic
(of superoxide dismutase)
IT Electric potential
(redox, of superoxide dismutase and its substrate radicals)
IT 7440-50-8D, amino acid complexes 13479-54-4 14263-88-8 15337-89-0 **28488-64-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with nitroacetophenone anions, kinetics in relation to)
IT 131-08-8 11062-77-4 34469-63-1 34512-32-8 50958-71-9 56010-45-8 67509-74-4
RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with superoxide dismutase, kinetics of)
IT 9054-89-1
RL: RCT (Reactant); RACT (Reactant or reagent)
(redox reactions of, specificity in)
IT **28488-64-4**
RL: RCT (Reactant); RACT (Reactant or reagent)
(reaction of, with nitroacetophenone anions, kinetics in relation to)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



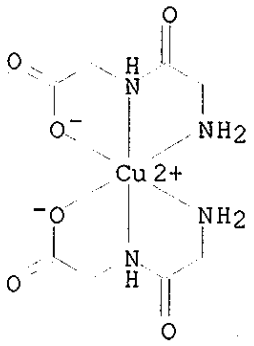
L155 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1979:152606 HCAPLUS
DN 90:152606
ED Entered STN: 12 May 1984
TI Cobalt(II), nickel(II), and copper(II) complexes of di- and tetrapeptides containing tyrosine and glycine residues
AU El-Eazby, Mohamed S.; Al-Hassan, Jassim M.; Eweiss, Namek F.; Al-Massaad, Farida
CS Fac. Sci., Univ. Kuwait, Kuwait, Kuwait
SO Canadian Journal of Chemistry (**1979**), 57(1), 104-12
CODEN: CJCHAG; ISSN: 0008-4042
DT Journal
LA English
CC 34-3 (Synthesis of Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22
AB The solution equilibrium of di- and tetrapeptides containing tyrosine and glycine residues have been investigated in absence and presence of Co(II), Ni(II), and Cu(II) ions. The equilibrium consts. have been determined by pH titration in 80% Me2SO-H2O. Protons are ionized from terminal (protonated amino and carboxyl) groups as well as from peptidal N. Complexes of 1:1 composition of metal ion-tetrapeptides were formed in a wide range of pH; also 1:1 complexes of the metal ions-dipeptides were formed in solution under the same conditions. Other higher complexes cannot be proved to form in the pH range studied. The complexes of these metal ions with glycine and H-Tyr(CH2Ph)-OH were also studied under the same exptl. conditions as control expts. and their equilibrium consts. were calculated
ST peptide complex equil; tyrosine peptide complex metal; glycine peptide complex metal; cobalt peptide complex metal; nickel peptide complex metal; copper peptide complex metal; equil tetrapeptide cobalt nickel copper
IT Peptides, compounds
RL: SPN (Synthetic preparation); PREP (Preparation)
(metal complexes, preparation and solution equilibrium of)
IT 13059-60-4 55033-36-8 55033-37-9 55033-38-0 55100-96-4
69817-72-7 69817-73-8 69846-78-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(metal complexes of, equilibrium conts. of)

IT 13479-54-4P 13479-55-5P 14281-74-4P 16884-48-3P **28488-64-4P**
52239-54-0P 69793-85-7P 69793-86-8P 69793-87-9P 69793-88-0P
69799-48-0P 69799-49-1P 69799-50-4P 69799-51-5P 69799-52-6P
69799-53-7P 69799-54-8P 69799-55-9P 69799-56-0P 69799-57-1P
69799-58-2P 69822-41-9P **69822-54-4P** 69822-55-5P
69822-56-6P **69822-57-7P** 69822-58-8P 69828-30-4P
69828-31-5P 69850-38-0P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and solution equilibrium of)

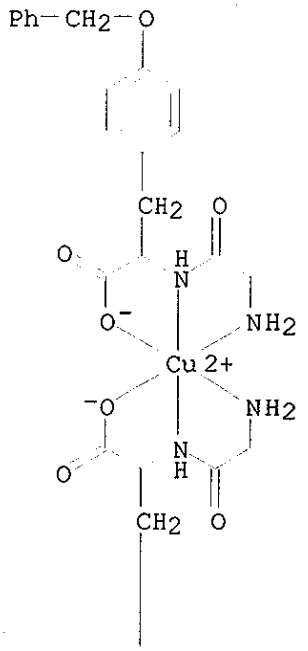
IT **28488-64-4P 69822-54-4P 69822-57-7P**
69828-31-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and solution equilibrium of)

RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)

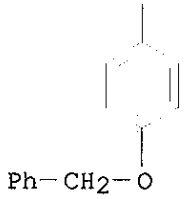


RN 69822-54-4 HCAPLUS
CN Copper, bis[N-glycyl-O-(phenylmethyl)-L-tyrosinato]- (9CI) (CA INDEX NAME)

PAGE 1-A

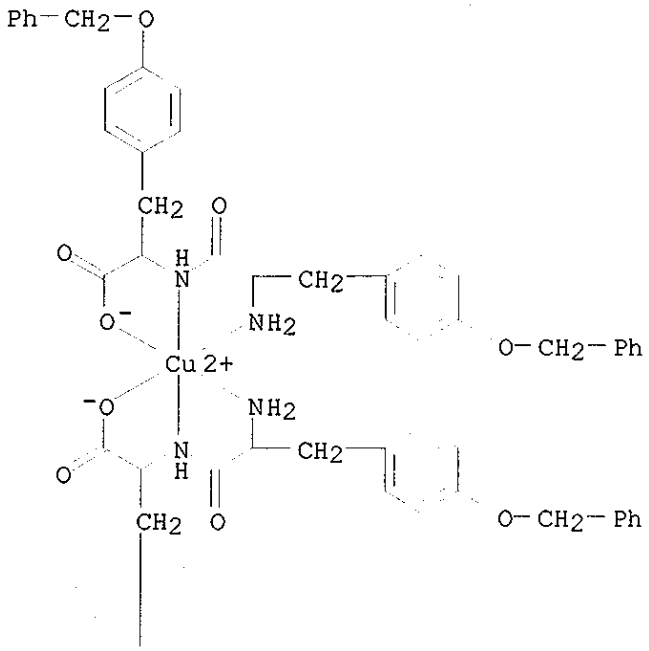


PAGE 2-A

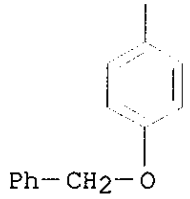


RN 69822-57-7 HCAPLUS
CN Copper, bis[O-(phenylmethyl)-N-[O-(phenylmethyl)-L-tyrosyl]-L-tyrosinato]-(9CI) (CA INDEX NAME)

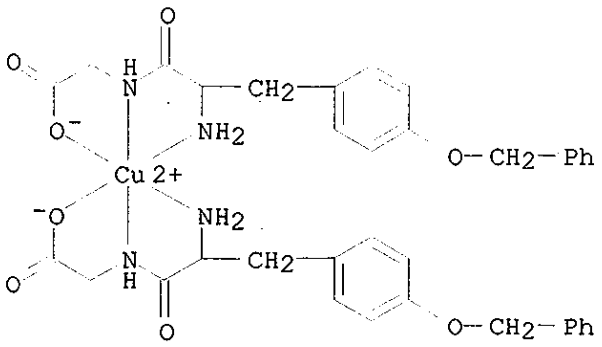
PAGE 1-A



PAGE 2-A

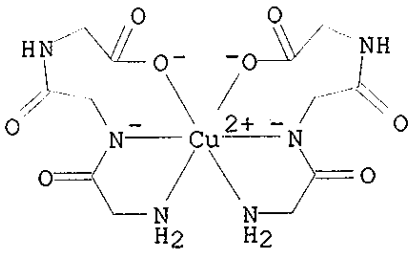


RN 69828-31-5 HCAPLUS
CN Copper, bis[N-[O-(phenylmethyl)-L-tyrosyl]glycinato-N,N',O1]- (9CI) (CA INDEX NAME)



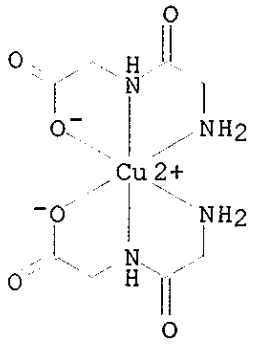
L155 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1978:536402 HCAPLUS

DN 89:136402
ED Entered STN: 12 May 1984
TI Nucleophilic displacement reactions of bis(triglycinato)cuprate(II) and bis(glycinamide)copper(II)
AU Raycheba, John M. T.; Dukes, Gary R.; Margerum, Dale W.
CS Dep. Chem., Purdue Univ., West Lafayette, IN, USA
SO Inorganic Chemistry (**1978**), 17(9), 2449-53
CODEN: INOCAJ; ISSN: 0020-1669
DT Journal
LA English
CC 67-3 (Catalysis and Reaction Kinetics)
AB Bis(glycinamide)copper(II), Cu(H-1G3)2, undergoes direct nucleophilic attack by triethylenetetramine (trien) with a rate constant of 1.4 + 104 M-1 s-1 at 25.0 °C. The trien reactivity with mono(triglycinato)cuprate(II), Cu(H-2G3)-, is 3 orders of magnitude greater, but it is at least 2 orders of magnitude less with bis(triglycinato)cuprate(II), Cu(H-1G3)22-, than with Cu(H-1Ga)2. Axial coordination of the carboxylate groups in Cu(H-1G3)22- is proposed. The reaction of trans-cyclohexanediaminetetraacetate, CyDTA, with Cu(H-1G3)22- proceeds by prior protonation of 1 peptide group to give Cu(H-1G3)(G3)- followed by the formation of a ternary complex, Cu(H-1G3)CyDTA, with the displacement of one G3-. A similar path occurs with EDTA, but due to increased steric constraints CyDTA is 6 + 103 less effective as a nucleophile. The formation of Cu(H-1G3)CyDTA and the displacement of the second G3- to form CuCydta2- both contribute to the rate-limiting steps.
ST copper chelate substitution; glycinamide copper substitution; triglycinato copper substitution; triethylenetetramine substitution copper chelate; CyDTA substitution copper chelate; protonation const GyDTA
IT Kinetics of substitution reaction
(of CyDTA and triethylenetetramine, with copper chelates)
IT Substitution reaction
(of CyDTA and triethylenetetramine, with copper chelates, mechanisms of)
IT 26291-09-8
RL: PRP (Properties)
(protonation constant of, in aqueous sodium perchlorate solution)
IT 34803-37-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reaction of CyDTA with, kinetics and mechanism of)
IT 37298-00-3
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reaction of triethylenetetramine with, kinetics and mechanism of)
IT 4097-89-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reactions of, for glycinamide and triglycine in copper complexes, kinetics and mechanism of)
IT **66842-51-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reactions of, with CyDTA and triethylenetetramine in aqueous sodium perchlorate, kinetics and mechanism of)
IT 13291-61-7
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reactions of, with copper triglycinato complexes, kinetics and mechanism of)
IT **66842-51-1**
RL: RCT (Reactant); RACT (Reactant or reagent)
(substitution reactions of, with CyDTA and triethylenetetramine in aqueous sodium perchlorate, kinetics and mechanism of)
RN 66842-51-1 HCAPLUS
CN Cuprate(2-), bis[N-(N-glycylglycyl)glycinato(2-)-NN,NN',O1]-, (OC-6-13)-(9CI) (CA INDEX NAME)

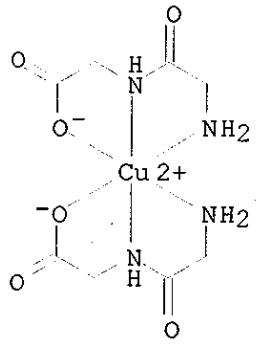


L155 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1976:538829 HCAPLUS
DN 85:138829
ED Entered STN: 12 May 1984
TI Assignment of a ligand in stellacyanin by a pulsed electron paramagnetic resonance method
AU Mims, W. B.; Peisach, J.
CS Bell Lab., Murray Hill, NJ, USA
SO Biochemistry (**1976**), 15(17), 3863-9
CODEN: BICHAW; ISSN: 0006-2960.
DT Journal
LA English
CC 6-3 (General Biochemistry)
AB The electron spin echo decay envelope for the blue Cu protein, stellacyanin, and for a number of other Cu(II) complexes was studied. Particular attention was given to the form of the nuclear modulation patterns which show the effects of coupling between the electron spin and the neighboring nuclei. The envelopes for the hydrated cupric complex and for copper(II) glycylglycine were essentially the same and indicative of the coupling to protons. The peptide complex contains N nuclei coupled directly to Cu(II), but the coupling constant is so large for these nuclei that a modulation pattern ascribable to 14N is not seen. For Cu(II) bovine serum albumin, on the other hand, a contribution due to the coupling of the remote N belonging to a histidyl imidazole ligand was observed The modulation pattern for this complex and for stellacyanin closely resembled one another, strongly suggesting that an imidazole is ligated to the Cu in this blue protein.
ST stellacyanin ligand ESR
IT Albumins, blood serum
RL: BIOL (Biological study)
(copper complexes, electron spin resonance of)
IT Stellacyanins
RL: BIOL (Biological study)
(copper of, imidazole ligation to, electron spin echo decay in relation to)
IT Electron spin resonance
(of stellacyanins, imidazole-copper interaction in relation to)
IT Copper, complexes
RL: BIOL (Biological study)
(electron spin echo decay of, ligation in relation to)
IT Glycine, N-[N-[N-(N-glycylglycyl)glycyl]glycyl]-, copper complexes
RL: PRP (Properties)
(electron spin resonance of)
IT 60552-08-1 60569-93-9
RL: PRP (Properties)
(ESR of)
IT 288-32-4
RL: BIOL (Biological study)
(copper ligated to, in stellacyanins)
IT **28488-64-4**

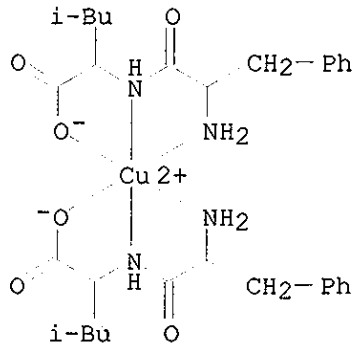
RL: PRP (Properties)
(electron spin resonance of)
IT **28488-64-4**
RL: PRP (Properties)
(electron spin resonance of)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



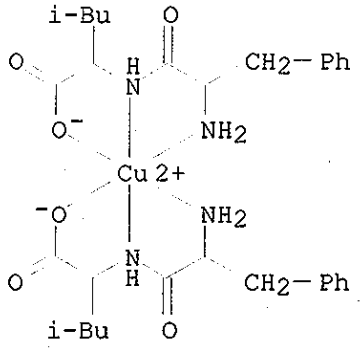
L155 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1976:128408 HCAPLUS
DN 84:128408
ED Entered STN: 12 May 1984
TI Deviations from centrosymmetry in some simple copper(2+) complexes
AU Peisach, J.; Mims, W. B.
CS Albert Einstein Coll. Med., Yeshiva Univ., Bronx, NY, USA
SO Chemical Physics Letters (1976), 37(2), 307-10
CODEN: CHPLBC; ISSN: 0009-2614
DT Journal
LA English
CC 73-4 (Spectra by Absorption, Emission, Reflection, or Magnetic Resonance, and Other Optical Properties)
AB Linear elec. field induced g-shifts were measured for [Cu(H2O)6]2+ and a number of other copper complexes in frozen solution Results indicate that, contrary to general assumptions, none of these complexes are centrosymmetric, computer simulation of the shifts suggesting that there is some tetrahedral distortion in all cases. The nearest approach to centrosymmetry occurs for copper bis-dimethylglyoxime and copper uroporphyrin where the ligand structure enforces a closer approximation to the ideal square planar configuration.
ST copper complex EPR elec field; centrosym copper complex
IT Molecular structure-property relationship
(EPR in elec. fields, of copper complexes)
IT Electron spin resonance
(of copper complexes in elec. fields, centrosym. deviations in)
IT Electric field, chemical and physical effects
(on EPR of copper complexes)
IT 13395-16-9 13426-91-0 13479-54-4 14127-96-9 14221-10-4
14946-74-8 16828-95-8 22174-11-4 24349-51-7 **28488-64-4**
RL: PRP (Properties)
(EPR of, in elec. fields, centrosym. in relation to)
IT **28488-64-4**
RL: PRP (Properties)
(EPR of, in elec. fields, centrosym. in relation to)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



L155 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1975:43723 HCAPLUS
DN 82:43723
ED Entered STN: 12 May 1984
TI Complex compounds of amino acids and peptides with metal cations. XIV. Investigation of diastereoisomeric complexes of L-phenylalanyl-L-leucine and D-phenylalanyl-L-leucine with copper(II)
AU Tomicka, Bogumila; Karczynski, Feliks; Kupryszewski, Gotfryd
CS Inst. Chem., Univ. Gdansk, Danzig, Pol.
SO Zeszyty Naukowe Wydzialu Matematyki, Fizyki, Chemii, [Seria]: Chemia (Uniwersytet Gdanski) (**1972**), 2, 95-100
CODEN: ZMFCAI; ISSN: 0208-4899
DT Journal
LA Polish
CC 34-3 (Synthesis of Amino Acids, Peptides, and Proteins)
Section cross-reference(s): 22, 78
AB The values of stability consts. of Cu complexes with Phe-Leu or with D-Phe-Leu were estimated by the Rose-Drago method. The stability of the complexes depended on the configuration of the amino acid residues.
ST phenylalanylleucine copper complex; leucylphenylalanine copper complex; copper complex peptide stability; configuration peptide copper complex
IT Peptides, properties
RL: PRP (Properties)
(copper complexes, stability constants of, configuration in relation to)
IT Formation constant and Stability constant
(of copper complexes with lysine peptides, configuration in relation to)
IT 3303-55-7P 3303-56-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and complexing with copper ion)
IT 4313-72-8P 4313-73-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation and the blocking of)
IT 2953-42-6 54430-45-4
RL: RCT (Reactant); RACT (Reactant or reagent)
(saponification of)
IT **54453-29-1 54515-62-7**
RL: PRP (Properties)
(stability of, configuration in relation to)
IT **54453-29-1 54515-62-7**
RL: PRP (Properties)
(stability of, configuration in relation to)
RN 54453-29-1 HCAPLUS
CN Copper, bis(N-L-phenylalanyl-L-leucinato-N,NN,O1)- (9CI) (CA INDEX NAME)

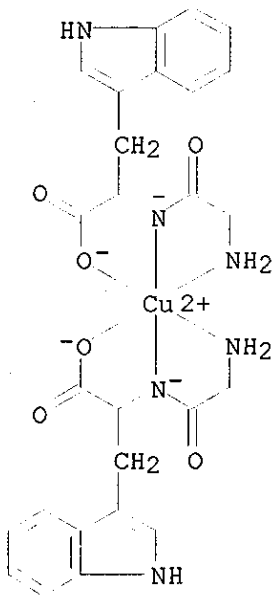


RN 54515-62-7 HCAPLUS
CN Copper, bis(N-D-phenylalanyl-L-leucinato-N,NN,O1)- (9CI) (CA INDEX NAME)

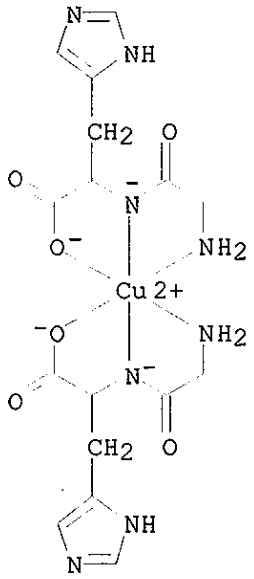


L155 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1971:468092 HCAPLUS
DN 75:68092
ED Entered STN: 12 May 1984
TI Complexes of copper with some dipeptides
AU Poroshin, K. T.; Salakhutdinov, U. I.; Tursunov, M. N.; Shukurov, S. Sh.
CS Tadzh. Gosmedinst. im. Abuali-Ibn-Sino, Dushanbe, USSR
SO Doklady Akademii Nauk Tadzhikskoi SSR (1971), 14(1), 37-40
CODEN: DANTAL; ISSN: 0002-3469
DT Journal
LA Russian
CC 68 (Phase Equilibriums, Chemical Equilibriums, and Solutions)
AB The stability consts. and acidic dissociation consts. of the Cu dipeptide complexes are tabulated. Cu-dipeptide (glycyltryptophan, glycylhistidine, alanylhistidine) ratio was 1:1 and 1:2. Absorption spectra of Cu glycyltryptophan complexes are described.
ST copper dipeptide complex stability; dissocn copper dipeptide complex
IT Peptides, compounds
RL: PRP (Properties)
(di-, copper complexes, formation consts. and ionization of)
IT Ionization in liquids
(of dipeptides and their copper complexes)
IT Histidine, N-L-alanyl-, copper complexes, L-
Histidine, N-glycyl-, copper complexes, L-
Tryptophan, N-glycyl-, copper complexes, L-
RL: PROC (Process)
(formation consts. and ionization of)
IT **33865-29-1 33874-30-5 33874-31-6**
RL: PRP (Properties); FORM (Formation, nonpreparative)

(formation consts. of)
IT 2390-74-1 2489-13-6 3253-17-6
RL: PEP (Physical, engineering or chemical process); PROC (Process)
(ionization of)
IT **33865-29-1 33874-30-5 33874-31-6**
RL: PRP (Properties); FORM (Formation, nonpreparative)
(formation consts. of)
RN 33865-29-1 HCAPLUS
CN Cuprate(2-), bis[N-glycyl-L-tryptophanato(2-)]- (8CI) (CA INDEX NAME)

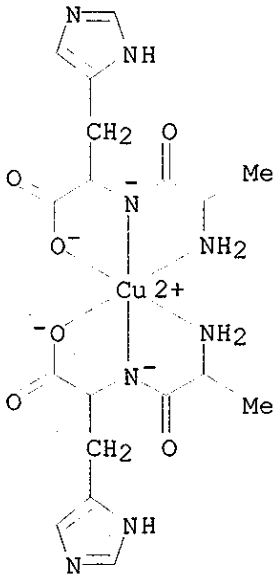


RN 33874-30-5 HCAPLUS
CN Cuprate(2-), bis[N-glycyl-L-histidinato(2-)]- (8CI) (CA INDEX NAME)



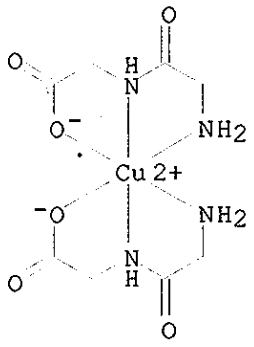
RN 33874-31-6 HCAPLUS

CN Cuprate(2-), bis[N-L-alanyl-L-histidinato(2-)-N,NN,Oα]- (9CI) (CA INDEX NAME)



L155 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1970:104642 HCAPLUS
DN 72:104642
ED Entered STN: 12 May 1984
TI Effect of temperature on formation constants of glycylglycine complexes with copper
AU Pelletier, Simonne
CS Lab. Electrochim., Fac. Sci. Paris, Paris, Fr.
SO Comptes Rendus des Seances de l'Academie des Sciences, Serie C: Sciences Chimiques (1969), 269(25), 1580-2
CODEN: CHDCAQ; ISSN: 0567-6541
DT Journal
LA French
CC 69 (Thermodynamics, Thermochemistry, and Thermal Properties)
AB Formation consts. (K') were determined for R- complexes with Cu(II) at 10-40° (RH = glycylglycine). Complex, log K' at 25°, ΔH0 (kcal/mole), ΔG0 (kcal/-mole), and ΔS0 cal/mole-degree are: CuR+, 6.02, -1.2, -8.20, +23.4; CuR2, 11.06, -2.6, -15.09, +41.9. The high entropy of formation of CuR2 is similar to that of the corresponding Cu-EDTA complex.
ST glycylglycine Cu complexes thermodyn; copper glycylglycine complexes thermodyn
IT Heat of reaction
(of copper, with glycylglycine with complex formation)
IT Entropy
Free energy
(of reaction, of copper with glycylglycine)
IT Glycine, N-glycyl-, copper complexes
RL: PREP (Preparation)
(preparation of)
IT **28488-64-4**
RL: PRP (Properties)
(formation consts. of, temperature effect on)
IT **28488-64-4**
RL: PRP (Properties)

(formation consts. of, temperature effect on)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



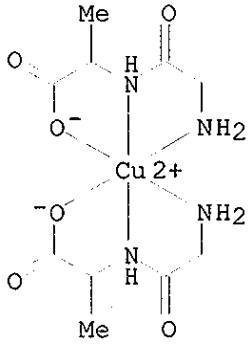
L155 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1968:499840 HCAPLUS
DN 69:99840
ED Entered STN: 12 May 1984
TI Catalytic activity of copper complexes formed by some dipeptides
AU Salakhutdinov, U. I.; Borisova, A. P.; Savich, I. A.
CS Mosk. Gos. Univ. im. Lomonosova, Moscow, USSR
SO Zhurnal Fizicheskoi Khimii (1968), 42(8), 2076-8
CODEN: ZFKHA9; ISSN: 0044-4537
DT Journal
LA Russian
CC 67 (Catalysis and Reaction Kinetics)
AB The activity was studied in relation to the amino acid composition of the ligand. The model reaction was the hydrolysis of p-nitrophenyl acetate (I). The dipeptides were glycyl-β-alanine, glycyl-L-α-alanine, glycyl-DL-norleucine, glycyl-DL-leucine, which were chromatographically pure. The 1.0 + 10-3M I in 2% ethanol was freshly prepared The optical d. of I in the presence of a Cu complex of glycyl-L-α-alanine increased with time from 0.155 after 1 min. to 1.060 after 10 min. and 1.860 at ∞. The constant of hydrolysis remained practically constant during this time. In the presence of Cu complexes formed by various dipeptides, the constant of hydrolysis increased with temperature: for glycyl-β-alanine at 25° it was 0.067 ± 0.0046, at 45° 0.153 ± 0.0106; for glycyl-L-α-alanine 0.084 ± 0.0007 and 0.305 ± 0.0148, resp.; for glycyl-DL-norleucine 0.090 ± 0.0048 and 0.183 ± 0.0098, resp.; for glycyl-DL-leucine 0.109 ± 0.0048 and 0.170 ± 0.0017, resp. The activation energy (cal./mole) was for Cu glycyl-β-alanine 9266, Cu glycyl-L-α-alanine 1438, Cu glycyl-DL-norleucine 6650, Cu glycyl-DL-leucine 5189.
ST copper complexes catalysts; peptides complexes catalysts
IT Hydrolysis catalysts
(copper complexes with dipeptides as, for p-nitrophenyl acetate)
IT Activation energy of hydrolysis
(of p-nitrophenyl acetate, catalyzed by copper complexes with dipeptides)
IT Alanine, N-glycyl-, copper complex, L-
Leucine, N-glycyl-, copper complex, DL-
Norleucine, N-glycyl-, copper complex, DL-
β-Alanine, N-glycyl-, copper complex
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for hydrolysis of p-nitrophenyl acetate)
IT 18307-30-7 **18307-31-8 18307-32-9 21246-08-2**

21246-09-3 21246-10-6 21246-11-7 21545-88-0
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for hydrolysis of p-nitrophenyl acetate)

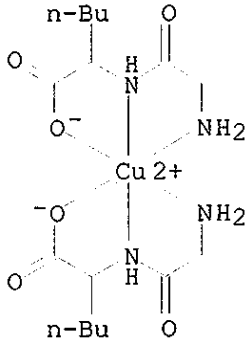
IT 830-03-5
RL: RCT (Reactant); RACT (Reactant or reagent)
(hydrolysis of, catalysts for, copper complexes with dipeptides as)

IT **18307-31-8 18307-32-9 21246-08-2**
RL: CAT (Catalyst use); USES (Uses)
(catalysts, for hydrolysis of p-nitrophenyl acetate)

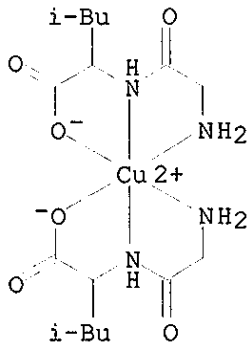
RN 18307-31-8 HCAPLUS
CN Copper, bis(N-glycyl-L-alaninato)- (6CI, 8CI) (CA INDEX NAME)



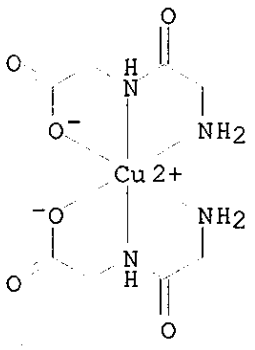
RN 18307-32-9 HCAPLUS
CN Copper, bis(N-glycyl-DL-norleucinato)- (8CI) (CA INDEX NAME)



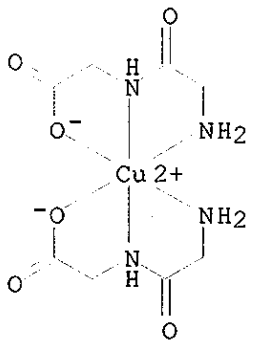
RN 21246-08-2 HCAPLUS
CN Copper, bis(N-glycyl-DL-leucinato)- (8CI) (CA INDEX NAME)



L155 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1967:426498 HCAPLUS
DN 67:26498
ED Entered STN: 12 May 1984
TI Microcalorimetric studies. Heats of complexing of transition metal ions with amino acids
AU Stack, Wallace F.; Skinner, Henry A.
CS Univ. Manchester, Manchester, UK
SO Transactions of the Faraday Society (**1967**), 63(5), 1136-45
CODEN: TFSOA4; ISSN: 0014-7672
DT Journal
LA English
CC 69 (Thermodynamics, Thermochemistry, and Thermal Properties)
AB Heats of complexing in aqueous solution have been measured by using a Beckman 190B microcalorimeter for the amino acid ligands, glycine, α-alanine, β-alanine, serine, and histidine: the values of -ΔH for forming ML2 complexes were in the order Co(II) < Ni(II) < Cu(II) > Zn(II), the same as for -ΔG values from stability constant data. Discussion is made of some factors influencing ΔH and ΔS of complex formation. 28 references.
ST HEATS COMPLEXING AMINO ACIDS; TRANSITION METALS COMPLEXING; AMINO ACIDS HEATS COMPLEXING
IT Entropy
Heat of reaction
(of transition metal-amino acid complex formation)
IT Alanine, complexes with cobalt, copper and nickel, L-
Glycine, complexes with transition metals
Glycine, N-glycyl-, metal complexes
Histidine, complexes with copper, nickel and zinc
Serine, complexes with copper and nickel
β-Alanine, complexes with copper and nickel
RL: PRP (Properties)
(heat and entropy of complex formation of)
IT 13479-54-4 13479-55-5 13842-97-2 13870-80-9 14040-31-4
14281-74-4 14281-83-5 14852-35-8 15130-07-1 15320-57-7
15416-50-9 16743-10-5 16743-16-1 16884-48-3 28143-20-6
28488-64-4
RL: PRP (Properties)
(entropy and heat of complex formation of)
IT **28488-64-4**
RL: PRP (Properties)
(entropy and heat of complex formation of)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)

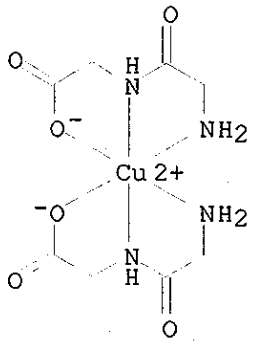


L155 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1964:423185 HCAPLUS
DN 61:23185
OREF 61:3927g-h,3928a
ED Entered STN: 22 Apr 2001
TI Gas polarography. II
AU Kritzner, G.; Gutmann, V.; Schoeber, G.
CS Tech. Hochschule, Vienna
SO Mikrochimica et Ichnoanalytica Acta (**1964**), (2-4), 193-5
CODEN: MKIAA6; ISSN: 0369-0504
DT Journal
LA German
CC 15 (Electrochemistry)
AB cf. CA 58, 7370f. The polarographic behavior of NO2, NO, N2O3, and N2O in anhydrous Me2SO is given. NO2 gives 2 waves at E1/2 = - 1.03 and - 1.53 v. vs. S.C.E., in which the former wave is diffusion-controlled, proportional to concentration, and unaffected by 3% H2O. Both waves fail to give 1st-order maximum above 5 + 10-3M and 25°. NO gives an irreversible wave at E1/2 = -1.44 v. with a limiting current which is diffusion-controlled and unaffected by 20% H2O. N2O3, or a mixture of NO + NO2, gives, besides the component waves, an addnl. wave at E1/2 = -1.18 v. N2O gives a single irreversible wave at E1/2 = -2.22 v. The presence of 1% H2O results in irregularities in the diffusion-controlled limiting current. As the N oxides give irreversible waves, it is not possible to determine the number of participating electrons in the reactions by logarithmic analysis, or by extended electrolysis, as the dissolved gases are in equilibrium with the vapor phase.
IT Nitrogen oxide, NO2 (or N2O4)
(polarography in anhydrous Me2SO)
IT Copper, bis[N-[N-(N-glycylglycyl)glycyl]glycinato]-
(polarography of)
IT 10024-97-2, Nitrogen oxide, N2O 10544-73-7, Nitrogen oxide, N2O3
(polarography in anhydrous Me2SO)
IT 12354-28-8, Copper, bis[N-(N-glycylglycyl)glycinato]- **28488-64-4**
, Copper, bis(N-glycylglycinato)-
(polarography of)
IT 10102-43-9, Nitrogen oxide, NO
(polarography of, in anhydrous Me2SO)
IT **28488-64-4**, Copper, bis(N-glycylglycinato)-
(polarography of)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



L155 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN 1964:423184 HCAPLUS
DN 61:23184

OREF 61:3927f-g
ED Entered STN: 22 Apr 2001
TI Polarography of biuret complexes. I. Determination of instability constants of copper biuret complexes of polypeptides and proteins
AU Plekhan, M. I.; Chikvarkina, I. I.
SO Zhurnal Obshchei Khimii (**1964**), 34(4), 1224-7
CODEN: ZOKHA4; ISSN: 0044-460X
DT Journal
LA Unavailable
CC 15 (Electrochemistry)
AB Cu biuret complexes of peptides and proteins were found to be reduced on a dropping Hg electrode at cathodic values of the applied potential. The Cu reduction potentials were found to be more neg. than those needed for reduction of Cu++. The results were used to compute the instability consts. of the following biuret complexes: glycylglycine 10-23; glycylglycylglycine 10-29; tetraglycine 10-37; biuret 10-21; insulin 10-33; trypsin 10-28; ribonuclease 10-26. These Cu complexes are more stable than those of amino acids and lower peptides. The stability of these complexes declined somewhat in the presence of NH4Cl.
IT Polarography
IT Ionization
(of copper complexes, with biuret)
IT Biuret reaction
(of polypeptides and proteins)
IT Potential, electric
(oxidation-reduction, of Cu, in biuret complexes)
IT Copper, bis(biunretato)-
Copper, bis[N-[N-(N-glycylglycyl)glycyl]glycinato]-
Copper compounds, with insulin
Copper compounds, with ribonuclease
Copper compounds, with trypsin
Glycine, N-glycyl-, copper complex
Ribonucleases, copper complex
(polarography of)
IT 12125-02-9, Ammonium chloride
(biuret complex stability in presence of)
IT 9002-07-7, Trypsin 9004-10-8, Insulin
(copper complex, polarography of)
IT 108-19-0, Biuret 556-33-2, Glycine, N-(N-glycylglycyl)- 637-84-3, Glycine, N-[N-(N-glycylglycyl)glycyl]-
(copper complexes, polarography of)
IT 7440-50-8, Copper
(oxidn-reduction potential of, in biuret complexes)
IT 12354-28-8, Copper, bis[N-(N-glycylglycyl)glycinato]- **28488-64-4**, Copper, bis(N-glycylglycinato)-
(polarography of)
IT **28488-64-4**, Copper, bis(N-glycylglycinato)-
(polarography of)
RN 28488-64-4 HCAPLUS
CN Copper, bis(N-glycyl-κN-glycinato-κN,κO)- (9CI) (CA INDEX NAME)



L155 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2003 ACS on STN
AN **1957:91280** HCAPLUS
DN **51:91280**
OREF 51:16604g-h
ED Entered STN: 22 Apr 2001
TI **Copper** salts of dipeptides
AU Tomita, Masaji; Hamamura, Norikatsu; Tamiya, Hisaaki; Takehara, Manabu; Tomita, Kenichi
CS Univ. Kobe
SO Z. physiol. Chem. (**1953**), 295, 128-31
DT Journal
LA Unavailable
CC 11A (Biological Chemistry: General)
AB Glycylglycine (I), leucylglycine, and **anserine** (II) combine with CuO similarly, to **carnosine** and ophidine (β-alanyl-2-methylhistidine) to form **Cu** salts. The **Cu** atom probably combines with the carbonyl group of one amino acid and the O of the carbonyl of the other, since a 1:1 combination exists between **Cu** and the dipeptide. Decomposition of the **Cu** salts of I with H2S did not give the original dipeptide but a cyclic isomer. A preparation of II from chicken muscle gives a dipicrolonate. From the analysis and the absence of a free carbonyl group it is concluded that II also exists in cyclic form.
IT Dipeptides
(**copper complexes**)
IT Ring closure or formation
(of dipeptide **Cu** salts)
IT **Anserine, complex** with CuO and with picrolonate
Glycine, N-glycyl-, **copper complex**
Glycine, N-leucyl-, **complex** with CuO
Picrolonic acid, compound with **anserine**
IT 5-Oxazolidinone, 2-(2-aminomethyl)-2-hydroxy-
(from degradation of CuO **complex** with N-glycylglycine)
IT **7440-50-8, Copper**
(compounds, dipeptide **complexes** with CuO, and their degradation products)
IT 99180-53-7, 5-Oxazolidinone, 2-(2-aminoethyl)-2-hydroxy-4-(1-methylimidazol-5-ylmethyl)-
(from degradation of dipicrolonate **complex** with **anserine**)
IT **7440-50-8, Copper**
(compounds, dipeptide **complexes** with CuO, and their degradation products)
RN 7440-50-8 HCAPLUS
CN Copper (7CI, 8CI, 9CI) (CA INDEX NAME)

Cu

=> fil reg
FILE 'REGISTRY' ENTERED AT 09:00:00 ON 17 DEC 2003
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.

Property values tagged with IC are from the ZIC/VINITI data file
provided by InfoChem.

STRUCTURE FILE UPDATES: 16 DEC 2003 HIGHEST RN 627482-61-5
DICTIONARY FILE UPDATES: 16 DEC 2003 HIGHEST RN 627482-61-5

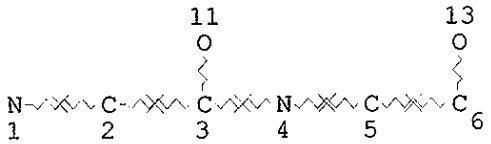
TSCA INFORMATION NOW CURRENT THROUGH JULY 14, 2003

Please note that search-term pricing does apply when
conducting SmartSELECT searches.

Crossover limits have been increased. See HELP CROSSOVER for details.

Experimental and calculated property data are now available. For more
information enter HELP PROP at an arrow prompt in the file or refer
to the file summary sheet on the web at:
http://www.cas.org/ONLINE/DBSS/registryss.html

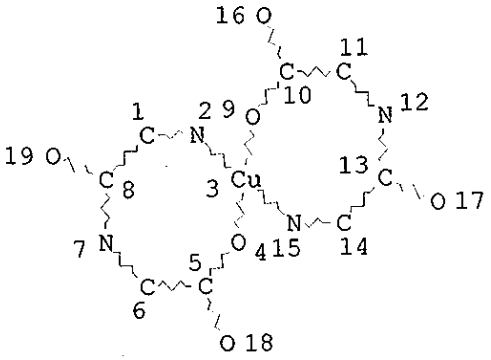
=> d sta que l150
L121 414205 SEA FILE=REGISTRY ABB=ON PLU=ON CU/ELS OR COPPER OR CU OR
CUPRIC OR CUPROUS
L122 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 8

STEREO ATTRIBUTES: NONE
L124 1735 SEA FILE=REGISTRY SUB=L121 SSS FUL L122
L130 STR

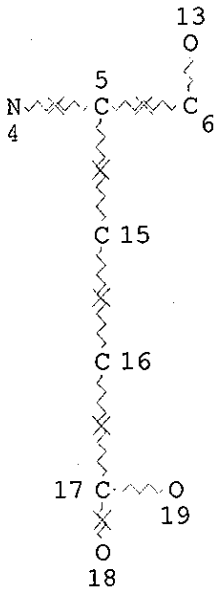


NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 19

STEREO ATTRIBUTES: NONE

L132	30	SEA FILE=REGISTRY SUB=L124 SSS FUL L130
L133	3	SEA FILE=REGISTRY ABB=ON PLU=ON L132 AND S/ELS
L134	27	SEA FILE=REGISTRY ABB=ON PLU=ON L132 NOT L133
L143		STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 9

STEREO ATTRIBUTES: NONE

L145	414367	SEA FILE=REGISTRY ABB=ON PLU=ON L121 OR CUPRATE
L146	421	SEA FILE=REGISTRY SUB=L145 SSS FUL L143

```
L147          15 SEA FILE=REGISTRY ABB=ON  PLU=ON  L146 AND NC4-C6/ES
L148           7 SEA FILE=REGISTRY ABB=ON  PLU=ON  L147 AND 4/NR
L149           5 SEA FILE=REGISTRY ABB=ON  PLU=ON  L148 NOT SQL/FA
L150          32 SEA FILE=REGISTRY ABB=ON  PLU=ON  (L134 OR L149)


=> d his

     (FILE 'REGISTRY' ENTERED AT 07:24:55 ON 17 DEC 2003)
               DEL HIS

     FILE 'HCAPLUS' ENTERED AT 07:25:01 ON 17 DEC 2003
L1             1 S US20030087830/PN
               E AETERNA/PA,CS
L2            11 S E3-E8
               E LES LAB/PA,CS
L3             6 S E6-E9
               E LABORATOIRE/PA,CS
               E DUPONT E/AU
L4           126 S E3-E6,E16
               E LESSARD D/AU
L5            16 S E3,E4,E8,E9
               E AUGER S/AU
L6            15 S E3,E4,E9
               E DIMITRIADOU V/AU
L7            30 S E3,E6
               E FALARDEAU P/AU
L8            83 S E3,E4
               E POYET P/AU
L9            64 S E3-E5
L10            4 S L2-L9 AND (COPPER OR CU OR CUPRI? OR CUPROU?)
L11            1 S L10 AND (AMINO ACID# OR ?PROTEIN? OR ?PEPTIDE?)
L12            0 S L10 AND (AMINO ACID? OR PROTEIN? OR PEPTIDE?)/SC,SX

     FILE 'REGISTRY' ENTERED AT 07:30:25 ON 17 DEC 2003
L13            1 S 7440-50-8

     FILE 'HCAPLUS' ENTERED AT 07:30:29 ON 17 DEC 2003
L14       449427 S L13
L15            2 S L1-L9 AND L14
L16            1 S L11 AND L15
               SEL RN

     FILE 'REGISTRY' ENTERED AT 07:31:08 ON 17 DEC 2003
L17           17 S E1-E17
L18           16 S L17 NOT L13
L19            1 S L18 AND C16H19N3O5
               E C16H19N3O5/MF
L20           32 S E3 AND NC4-C6/ES AND 2/NR
L21           14 S L20 AND TRYPTOPHAN
L22            7 S L21 AND GLUT?
L23            6 S L22 NOT GLUTAMIC ACID
L24            6 S L19,L23
               E CARNOSINE
L25           33 S E3
L26           24 S L25 AND 1/NC
L27           17 S L26 NOT UNSPECIFIED
L28           13 S L27 AND HISTIDINE AND BETA ALAN?
L29            3 S L28 AND C9H14N4O3
               E ANSERINE
L30           14 S E3
L31            1 S L30 AND C10H16N4O3 AND 1/NC
L32            6 S L30 AND C10H16N4O3
```

```
                E C10H16N4O3/MF
L33          69 S E3 AND NCNC2/ES
L34          10 S L33 AND HIST? AND ALAN?
L35          15 S L18 NOT L24,L29,L31
L36           1 S C4H9N3O2 AND L35
L37          14 S L35 NOT L36
L38          16 S (L-ALANINE OR D-ALANINE OR DL-ALANINE OR L-ASPARTIC ACID OR D
L39          18 S (L-VALINE OR D-VALINE OR DL-VALINE OR L-LEUCINE OR D-LEUCINE
L40           3 S (L-TRYPTOPHAN OR D-TRYPTOPHAN OR DL-TRYPTOPHAN)/CN
L41           2 S L37 NOT L38-L40
L42          14 S (L-HISTIDINE OR D-HISTIDINE OR DL-HISTIDINE OR L-ARGININE OR
L43           1 S 3130-87-8
L44           6 S (L-PHENYLALANINE OR D-PHENYLALANINE OR DL-PHENYLALANINE OR L-
L45          58 S L38-L44
L46          10 S L24,L29,L31
                SEL RN
L47          37 S E1-E10/CRN
L48           0 S L47 AND CU/ELS
L49          23 S L47 NOT (PMS OR MXS)/CI
L50          13 S L49 NOT (CONJUGATE OR COMPD OR WITH)
L51          11 S L50 NOT C6/ES

     FILE 'HCAPLUS' ENTERED AT 07:57:12 ON 17 DEC 2003
L52          26 S L51
L53         147 S L24
L54        1903 S L29
L55         778 S L31
L56        2992 S CARNOSIN# OR ANSERIN#
L57           5 S IGNOTIN# OR KARNOZIN# OR KARNOSIN# OR NSC524045 OR NSC()(5240
L58          91 S IM862 OR IM 862 OR NSC334073 OR NSC()(334073 OR 334 073) OR O
L59          99 S L52-L58 AND L14
L60         205 S L52-L58 AND (CU OR COPPER OR CUPRIC OR CUPROUS)
L61         205 S L59,L60
L62          87 S L61 AND ?COMPLEX?
L63           4 S L61 AND ?CONJUGAT?
L64           5 S L62,L63 AND THU/RL
L65          12 S L62,L63 AND (PHARMACEUT? OR PHARMACOL?)/SC,SX
L66           1 S L62,L63 AND SHARK
L67           2 S L61 AND SHARK
                SEL DN AN L64 1-4
L68           4 S E11-E22 AND L64
L69           7 S L65 NOT L64,L66-L68
                SEL DN AN 1 4 5 6
L70           4 S L69 AND E23-E34
L71          78 S L62,L63 NOT L64-L70
L72          69 S L71 AND (PD<=20010612 OR PRD<=20010612 OR AD<=20010612)
L73         155 S L53,L58
L74           3 S L73 AND L61
L75           2 S L74 NOT SILICA/TI
L76           9 S L16,L66-L68,L70,L75
L77           7 S L76 AND (PD<=20010612 OR PRD<=20010612 OR AD<=20010612)
L78           2 S L76 NOT L77
                E ANGIOGENESIS/CT
L79       12774 S E3-E10
                E E3+ALL
L80       10341 S E5+NT
                E E11+ALL
L81        3998 S E2
                E E6+ALL
L82        2282 S E3,E4,E2+NT
L83           1 S L61 AND L79-L82
                E ANTITUMOR/CT
                E E5+ALL
```

```
L84           3 S L61 AND E1,E2
L85           0 S L61 AND E23,E24
L86           2 S L84 NOT NCI/TI
L87           4 S L61 AND ?ANGIO?
L88           3 S L61 AND ?VASCULAR?
L89           5 S L87,L88
                SEL DN AN 1 2
L90           2 S E1-E6
L91        2198 S L46
L92         143 S L91 AND (CU OR COPPER OR CUPRIC OR CUPROUS OR L14)
L93         121 S L92 AND (PD<=20010612 OR PRD<=20010612 OR AD<=20010612)
L94           1 S L92 AND L79-L82
L95          56 S L92 AND ?COMPLEX?
L96           4 S L92 AND ?CONJUGAT?
L97          15 S L92 AND THU/RL
L98           3 S L97 AND L95,L96
L99          64 S L95-L97 NOT L98,L76-L78,L86,L83,L90

     FILE 'REGISTRY' ENTERED AT 08:23:26 ON 17 DEC 2003
                E CUPPER/CN
                E COPPER/CN
                E CU/MF
L100        131 S E3
L101         37 S L100 NOT ISOTOPE
L102        128 S L100 NOT URANIUM

     FILE 'HCAPLUS' ENTERED AT 08:24:48 ON 17 DEC 2003
L103     464808 S L102
L104        113 S L103 AND L52-L58,L91
L105         50 S L104 AND ?COMPLEX?
L106          4 S L104 AND ?CONJUGAT?
L107         12 S L105,L106 NOT L99
                SEL DN AN 1 2 7 9 12
L108          5 S L107 AND E1-E15
L109       6279 S L45 AND L103
L110       9724 S L45 AND (CU OR COPPER OR CUPRIC OR CUPROUS)
L111      10049 S L109,L110
L112        149 S L111 AND (DIPEPTIDE OR DI PEPTIDE)
                E DIPEPTIDE/CT
                E E11+ALL
L113        263 S L111 AND E3,E2+NT
L114        328 S L112,L113
L115        208 S L114 AND (?COMPLEX? OR ?CONJUGAT?)
L116         36 S L114 AND (THU/RL OR (PHARMACEUT? OR PHARMACOL?)/SC,SX)
L117         16 S L115 AND L116
                SEL DN AN 1 10
L118          2 S E1-E6
L119         11 S L76-L78,L83,L86,L90,L98,L108,L118 AND L1-L12,L14-L16,L52-L99,
L120         10 S L119 NOT DNA/TI

     FILE 'REGISTRY' ENTERED AT 08:34:11 ON 17 DEC 2003
                E CU/ELS
L121     414205 S E3 OR COPPER OR CU OR CUPRIC OR CUPROUS
L122            STR
L123         50 S L122 SAM SUB=L121
L124       1735 S L122 FUL SUB=L121
                SAV L124 KAM879/A
L125            STR
L126          0 S L125 SAM SUB=L124
L127          0 S L125 FUL SUB=L124
L128          0 S L125 SAM
L129            STR L125
L130            STR L129
```

```
L131          1 S L130 SAM SUB=L124
L132         30 S L130 FUL SUB=L124
                SAV L132 KAM879A/A
L133          3 S L132 AND S/ELS
L134         27 S L132 NOT L133
L135         96 S L124 AND NC4-C6/ES
L136        707 S L121 AND NC4-C6/ES AND NR>=4
L137        612 S L136 NOT L132,L135
L138          7 S L137 AND GLUT?
L139        116 S L137 AND 6/NR
L140          0 S L139 AND 8/NR
L141          0 S L139 AND 7/NR
L142          0 S L139 AND NR>=9
L143            STR L122
L144         17 S L143 SAM SUB=L121

     FILE 'REGISTRY' ENTERED AT 08:53:51 ON 17 DEC 2003
L145     414367 S L121 OR CUPRATE
L146        421 S L143 FUL SUB=L145
L147         15 S L146 AND NC4-C6/ES
L148          7 S L147 AND 4/NR
L149          5 S L148 NOT SQL/FA
L150         32 S L134,L149
L151         31 S L150 NOT C12H18CUN6O8
                SAV L150 KAM879B/A

     FILE 'HCAPLUS' ENTERED AT 08:58:01 ON 17 DEC 2003
L152         19 S L150
L153         17 S L152 AND (PD<=20010612 OR PRD<=20010612 OR AD<=20010612)
L154          0 S L152 AND L1-L9
L155         26 S L120,L153

     FILE 'HCAPLUS' ENTERED AT 08:59:22 ON 17 DEC 2003

     FILE 'HCAPLUS' ENTERED AT 08:59:37 ON 17 DEC 2003

     FILE 'REGISTRY' ENTERED AT 09:00:00 ON 17 DEC 2003

=>
```